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TWELFTH INTERNATIONAL VETERINARY CONGRESS

ORGANISING COMMITTEE'S INITIAL ARRANGEMENTS FOR NEW YORK

The Organising Committee for the Twelfth International Veterinary Congress, which is to be held in the United States in the summer of 1934, has held several meetings for the purpose of arranging plans for the Congress. At a meeting held on August 22nd, in connection with the 69th annual meeting of the American Veterinary Medical Association at Atlanta, plans for a number of matters in connection with the Congress were decided upon definitely.

A budget approved for the Congress provides for expenses of $38,000 (at the present rate of exchange, nearly £11,000 sterling). Previous plans called for a considerably larger sum than this, and the principal cause of the reduction is the marked diminution during the past two years in the cost of printing.

Plans for raising this sum were decided upon. It was thought that the American Veterinary Medical Association should supply $10,000; State Veterinary Medical Associations, $5,000; and membership fees from American veterinarians, $10,000. The quota to be raised from other sources will be announced when the campaigns to procure such funds are launched. Of the aforementioned sums, the $10,000 that was to be provided by the A.V.M.A. has already been appropriated and is now available for the use of the Committee. More than half of the quota of the State Veterinary Medical Associations has already been appropriated and there seems little doubt that the total amount expected from this source will be raised more than a year in advance of the assembling of the Congress.

The membership campaign will be launched during the winter of 1933, and the Committee anticipates no particular difficulty in enrolling 2,000 members in the Americas alone. The price of membership has been set at $5.00, this to include a printed copy of the proceedings, probably in three cloth-bound volumes.

As has already been announced, the Spanish language will be added to the official languages for the Twelfth Congress. The official languages for this Congress, therefore, will be Spanish, French, German and English. It was decided to employ, so far as may be possible, veterinary interpreters for the Congress, in order that important technical points in the discussion may not be omitted in the interpretation. Since there are in the United States many veterinarians native to each of the countries having official language in the Congress, there should readily be procured veterinarians for interpreters from English into the other official languages, or from the other official languages into English. The Committee foresees possible difficulty in procuring veterinarians to render discussions from French into German or Spanish or *vice versa,* and may have to employ professional interpreters for this purpose.

The Organising Committee completed the list of subjects for discussion for recommendation to the Permanent Committee of the International Veterinary Congress. The list includes every important branch of the science of veterinary medicine and should offer discussions of interest and value to every veterinarian, regardless of his speciality or line of work.

The city in which the Twelfth International Veterinary Congress is to be held was definitely decided upon: it is to be New York. The chief factor influencing this selection was the easy accessibility of New York from all parts of the Western Hemisphere and from Europe. New York is about midway between San Francisco and London and only two-thirds the distance from Budapest or Naples that it is from Buenos Aires. From Oslo, Berlin, Paris or Madrid it is distant less than 3,500 miles. It is reached by more steamship lines than any other American city. Further, New York of itself presents undoubted points of interest, to the peoples of other lands, not possessed by any other American city, while to American veterinarians it possesses greater attractions than any other city of the Atlantic seaboard. All these are factors that make for a large attendance at the Congress.

It is not believed that the Permanent Committee of the Congress will make material changes in the programme outlined by the Organising Committee, and it is therefore hoped to present a programme covering the whole subject of veterinary science of sufficient cosmopolitan interest to attract veterinarians in considerable numbers from other countries.

Every effort at entertainment will be made, to the end that attendance at the forthcoming Congress may be interesting and pleasant from the social aspect as well as profitable from a scientific standpoint.

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The Organising Committee

Following are the names and addresses of those who form the Organising Committee, as constituted at October 5th, 1932:—

Adolph Eichhorn (Chairman), Lederle Labs., Pearl River, N.Y.
L. A. Merillat (Assistant Chairman), 1827 S. Wabash Avenue, Chicago, Ill.
H. Preston Hoskins (General Secretary), 1230 W. Washington Boulevard, Chicago, Ill.
J. R. Mohler (Treasurer), Bureau of Animal Industry, Washington, D.C.
T. O. Booth, Temple, Texas.
O. V. Brumley, Ohio State University, Columbus, Ohio.
Joe H. Bux, Old State House, Little Rock, Ark.
E. A. Cahill, 1706 S.W. Straus Building, 310 S. Michigan Avenue, Chicago, Ill.
D. M. Campbell 75 E. Wacker Drive, Chicago, Ill.
C. A. Cary, Alabama Polytechnic Institute, Auburn, Ala.
J. W. Connaway, University of Missouri, Columbia, Mo.
C. E. Cotton, Old Capitol, Saint Paul, Minn.
W. F. Crewe, Box 532, Bismarck, N. Dak.
G. A. Dick, 39th Street and Woodland Avenue, Philadelphia, Pa.
E. L. Dicke, Louisburg, Kansas.
R. R. Dykstra, Kansas State College, Manhattan, Kansas.
T. H. Ferguson, 421, Broad Street, Lake Geneva, Wis.
Ward Giltner, Box 955, East Lansing, Mich.
W. A. Hagan, New York State Veterinary College, Ithaca, N.Y.
C. M. Haring, University of California, Berkeley, Calif.
C. C. Hastings, Williamsville, Ill.
Geo. Hilton, 95, Carling Avenue, Ottawa, Ontario.
C. C. Hisel, Dept. of Veterinary Medicine, State Board of Agriculture, Oklahoma City, Okla.
L. M. Hurt, 203-205 Administration Building, Union Stock Yards, Los Angeles, Calif.
M. Jacob, Box 416, Knoxville, Tenn.
E. C. Jones, Platte Valley Serum Co., Grand Island, Nebr.
Major R. A. Kelser, Army Medical School, Army Medical Centre, Washington, D.C.
T. H. Kindred, 213 S. Dakota Avenue, Sioux Falls, S. Dak.
A. T. Kinsley, 1103 E. 47th Street, Kansas City, Mo.
J. V. Lacroix, 1817 Church Street, Evanston, Ill.
Hadleigh Marsh, Agricultural Experiment Station, Bozeman, Mont.
C. J. Marshall, 39th Street and Woodland Avenue, Philadelphia, Pa.
N. S. Mayo, 484 Sheridan Place. Highland Park, Ill.
William Moore, N.C. Department of Agriculture, Raleigh, N.C.
T. E. Munce, Department of Agriculture, Harrisburg, Pa.
I. E. Newsom, Colorado Agricultural College, Fort Collins, Colo.
C. J. Scott, Knoxville, Iowa.
R. E. Shigley, Kenmare, N. Dak.
B. T. Simms, Oregon State Agricultural College, Corvallis, Ore.
C. H. Stange, Iowa State College, Ames, Iowa.
E. Sunderville, New York State Veterinary College, Ithaca, N.Y.
L. Van Es, University Farm, Lincoln, Nebr.
D. S. White, 1490 Cardiff Road, Upper Arlington, Columbus, Ohio.
H. A. Wilson, Capitol Building, Jefferson City, Mo.

THE ETIOLOGY OF FOWL PARALYSIS

(*A REVIEW OF LITERATURE*)

JACOB BIELY and V. ELVIRA PALMER
University of British Columbia, Vancouver, Canada

There appears to be considerable difference of opinion regarding the etiology of fowl paralysis (*Neurolymphomatosis gallinarum*). Is or is not fowl paralysis caused by a specific agent? The purpose of the present paper is to review briefly the available literature on the subject of fowl paralysis, with particular reference to the rôle played by intestinal parasites, a virus or other agencies* in the causation of fowl paralysis.

The first authentic description of fowl paralysis in Europe was published by Marek (1907). In the United States, May, Tittsler and Goodner (1925) state that a "well-known poultry judge of Rhode Island remembers his first case of paralysis to have occurred in 1878 and claims that he has observed the disease continually since that time. This means that paralysis in some form or other must have occurred in poultry for a long time." In recent years fowl paralysis has become very prevalent and is of great economic importance and biologic interest.

Kaupp (1921) observed several outbreaks of the disease in 1914 in North Carolina, Maryland, Virginia, New Hampshire, New Jersey, Connecticut and Massachusetts. He could not isolate the causative organism of the disease or transmit the disease to healthy chicks. In spite of this he considered fowl paralysis to be of an infectious nature. In a popular article describing fowl paralysis Kaupp (1927) again reported inability to reproduce the disease but maintained that the field studies pointed to the fact that it might be infectious.

de Blieck (1921) stated that the chief cause of paralysis in fowls in Europe is tapeworms; 95 per cent. of the paralysed birds examined by him were infested with *Davainea proglottina*. de Blieck (1930) described paralysis as being due to (1) worm infestation; (2) duodenal coccidiosis; (3) filterable virus (?).

Van de Walle and Winkler Junius (1924) described a disease, apparently identical with fowl paralysis, occurring in the Netherlands. These authors believed that the disease was caused by a filterable virus and could be transmitted by inoculation.

May, Tittsler and Goodner (1925) published

* In view of the consistently negative results obtained in the bacteriological studies of fowl paralysis, no reference will be made to the various experiments dealing with this phase of the problem.

a preliminary report of field observations and laboratory findings in paralysis of the domestic fowl, which were begun at Rhode Island State College in 1921. They reported that attempts to isolate pathogenic or toxin-forming bacteria from tissues or droppings were all negative and attempts to transmit the disease by contact, feeding infective material, or by inoculations, failed to produce any results.

The authors discussed the possible rôle of intestinal parasites and concluded that no essential difference was found in regard to animal parasites in paralytic and non-paralytic birds. They do note that control seems possible through proper rotation methods and sanitation.

Short notes of experiments with fowl paralysis appear in the Annual Reports of Rhode Island State College for the years 1925-1929 inclusive. Thus in the 1925 Report the following statement is made: "Further attempts have been made to transmit paralysis in adult fowls by inoculation from one bird to another. These experiments have been so carefully done and the results have been so completely negative that a transfer from a paralysed bird to another adult bird by means of inoculation seems entirely excluded." No new information was reported during the year 1926.

It is interesting to note that in the 1927 Report the following is stated: "Fowl paralysis seems to be decreasing among the station flock, the mortality this year from paralysis being less than 1 per cent. against 15 per cent. the previous year. This decrease was not due, however, to any special method of treatment employed."

In 1928 the Report states: "Sixty-two paralysed birds, which did not have the slightest use of their legs, were examined. None of these birds was free from parasites. The vast majority showed heavy infestation of either round, tape or cæcal worms." The same applied to birds examined during the year 1929.

In 1928, "Tissue extracts were made from various organs of paralytic birds and injected into normal birds. This inoculation was repeated three times at intervals of one week. The paralytic condition was not remedied. There have been no indications of any specific factor responsible for fowl paralysis." Efforts to transmit the disease during 1929 were also unsuccessful.

E. A. Beach, of Wisconsin (1925), in describing the symptoms of round and tape worm infestation, states that, amongst other things, paralysis of one or both legs often follows infestation with intestinal worms, and that recovery from paralysis practically never takes place.

J. R. Beach and Davis, of California (1925), recorded the occurrence of "chronic" coccidiosis in pullets between the ages of four and eight months. They state that leg weakness or "paralysis" is one of the prominent symptoms of "chronic" coccidiosis.

J. R. Beach (1930), in a popular paper on "Paralysis of Fowl (*Neurolymphomatosis gallinarum*)," noted that coccidial enteritis and teniasis are quite commonly encountered in paralysed birds, the former more frequently than the latter. He states that "In some sections of this country and Europe, either coccidial enteritis (chronic coccidiosis) or tæniasis has been so constantly found in paralysed birds that paralysis is looked upon as a symptom of the parasitic infestation. In fact, there are veterinary publications in which coccidia and tænia are given as causes of paralysis. However, the previously discussed investigations (of Pappenheimer *et al*) concerning the etiology of paralysis, together with the fact that by no means all fowls with chronic coccidiosis or tæniasis became paralysed, seem to provide good evidence that parasitism alone does not cause paralysis. Nevertheless, the almost constant finding of coccidial enteritis in paralysed birds in some sections makes it appear that the two conditions are in some way inter-related instead of being simply two diseases happening to appear coincidentally."

Kotlan (1925) found *Davainea proglottina* in 13 out of 14 birds showing incoördination or leg weakness. The author could not demonstrate by various means the presence of an infectious agent, or the presence of a hæmatoxin in *Davainea proglottina*.

T. Van Heelsbergen (1927) considered that tapeworms are the principal cause of fowl paralysis.

L. P. Doyle (1926, 1928, 1929) regards fowl paralysis as a specific infectious disease caused by a germ or virus which attacks the nervous system. He has not been able, however, to reproduce the disease by inoculation, but is of the opinion that the disease is transmitted, like bacillary white diarrhœa, through the egg, and possibly by contact. Doyle rules out intestinal parasites as the causal agent of fowl paralysis and states that "unfortunately intestinal worms, as well as other common intestinal parasites, such as coccidia, have been accused of causing paralysis. Anyone who believes that paralysis is caused by worms or other common intestinal parasites must have difficulty in explaining why these parasites should begin causing the disease within the past few years."

Todd and L. P. Doyle (1931) reiterated the statement that fowl paralysis is a specific disease, and that it can be transmitted from parent to offspring through the egg.

A very extensive and comprehensive study of fowl paralysis was published by Pappenheimer *et al* (1926), and additional data in 1929. These authors regard fowl paralysis as a disease entity

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with characteristic clinical and pathological features. No relation was found between paralysis and infestation with coccidia or intestinal worms. The authors introduced a table showing the distribution of fowl paralysis in the United States and the views of a number of investigators as to the etiology of the disease. Eleven investigators explicitly committed themselves to the view that intestinal parasites are the cause of many cases of paralysis. Furthermore, " overcrowding, bad sanitation, lack of green feed, intensive feeding for egg production, are amongst the hypothetical causes advanced to explain the condition."

Pappenheimer *et al* succeeded in producing the disease by inoculation with unfiltered affected tissue. Twenty-six per cent. of the inoculated birds developed paralysis, while 7 per cent. of the controls also developed paralysis. The active agent was reported to survive in 50 per cent. glycerin after nine days at ice-box temperature. They considered that the agent which is responsible for the pathological changes in the nervous system is not exclusively neurotropic; it may in certain cases stimulate the proliferation of lymphoid cells in the viscera, and to a degree which makes them take on the morphological character of a neoplasm. In 10 per cent. of the spontaneous cases of fowl paralysis lymphomatous tumours, usually originating in the ovary, were found.

Stafseth and Johnson (1927) concluded that " duodenal coccidiosis infection is the most important cause of an ailment in poultry commonly spoken of as leg weakness, range paralysis, turning disease, or going light." Furthermore, the authors reported that six out of 12 birds which were given repeated doses of coccidia developed paralysis. None of the birds in three adjacent pens was affected.

Stafseth (1928) reported that much additional information has been gained to support the idea that duodenal coccidiosis of growing stock is the most common cause of lameness or paralysis. It has been further noted that in pigeons exhibiting symptoms similar to those observed in coccidiosis of chickens, numerous small coccidia, morphologically indistinguishable from those found in chickens, were observed.

Stafseth and Mallman (1928) suggested that " leg weakness and paralysis should be looked upon as symptoms and not as specific diseases." They refer to the lymphoid cell infiltration seen in leukemia and *Neurolymphomatosis gallinarum*, and ask, " Might it not be possible that bacteria of different kinds, worms and coccidia, as well as filterable viruses, could furnish the necessary stimulus for the cell infiltration seen in leukemia and *Neurolymphomatosis gallinarum*? "

In the opinion of Stafseth (1931) present-day knowledge throws little light on the etiology of fowl paralysis. He questions whether fowl paralysis is an infectious disease and emphasises the need for further research to determine its cause, its relationship to coccidiosis and tapeworm infections, the possibilities of egg transmission, the part played by heredity, and the exact significance of histological changes found in the nervous system.

Stafseth (1931) observed that leg weakness and paralysis occurred more frequently in connection with duodenal coccidiosis than with cæcal coccidiosis.

Gildow (1927) undertook the study of fowl paralysis at the New Hampshire Agriculture Experiment Station from four different viewpoints, assuming coccidiosis to be the cause of the disease. From his experiments the author concluded that coccidiosis is not the cause of paralysis or that it is not necessarily associated with paralysis. Nevertheless, he thinks measures outlined to combat or control coccidiosis assist in the controlling of paralysis also.

The experiments were continued during 1928 but the cause of the disease was not determined. It was concluded that coccidiosis in most instances in New Hampshire is closely associated with paralysis, but in all probability, there is a form of paralysis which is not connected with any of the internal parasites of poultry.

Gildow (1931) gave a very good popular account of fowl paralysis and remarked that there is no indisputable information to prove that either tapeworm infestation or coccidiosis in themselves will produce paralysis.

Johnson (1926-28), in reference to the relation of lameness and paralysis to coccidiosis, makes the following observation: " Inoculation experiments with coccidia of lame and paralysed birds resulted in typical acute cases of coccidiosis. It is evident from these inoculations that these cases of paralysis were not the result of chronic coccidiosis as has been claimed by some research workers."

Dobberstein and Haupt (1927) described the pathology of fowl paralysis and drew careful distinctions between it (Marek's paralysis) and paralysis due to lack of vitamin C (Eikmann's polyneuritis).

Thomas (1928) recorded that in several outbreaks of fowl paralysis in South Africa, neither *Davainea proglottina* nor coccidiosis was found in any of the paralysed fowls. He believes that the disease is caused by a virus.

Graham and McCulloch (1929) state that poisons produced by worms in the digestive tube, absorbed along with other poisons from the intestines, may either destroy the red blood cells and produce symptoms of anæmia, or affect the nerve centres that control motion, and produce drooping wings, lack of coördination of movements, paralysis, wry neck and blindness. In their opinion, " A specific disease characterised

by paralysis should not be confused with paralysis associated with worms, coccidiosis, internal tumours, and vitamin deficiencies." They add that "It is difficult to tell by external examination whether paralysis is caused by parasites or by one of several diseases. If a special neuritis is present, the nerve trunks of the legs and wings will be found at autopsy to be discoloured and enlarged, but in paralysis due to worms, no visible alteration can be seen. In worm infestation there is also an enteritis, or inflammation of the intestine."

Nieman (1929) found that in at least 50 per cent. of the fowl paralysis flocks that he examined coccidiosis was found, and in many, tapeworms and other intestinal parasites were present. He notes that measures designed to control coccidiosis and intestinal parasites will greatly reduce the incidence of the disease. Nieman thinks that no definite single etiological factor is responsible for fowl paralysis, but the suggestion that the condition might be caused by more or less specific toxins associated with intestinal disturbances seems plausible. He adds, however, "The possibility of a filtrable virus being the etiological factor is not to be altogether ignored, especially in the absence of definite information relative to other factors."

Young (1929) observed paralysis in one experimental bird which was artificially infected a second time with coccidiosis. Since the bird was kept in strict isolation the author drew from this the assumption that fowl paralysis is one of the symptoms of chronic coccidiosis.

In the Annual Report (1929) of the Florida Agricultural Experiment Station, experiments on "Paralysis of the Domestic Fowl" are reported. Attempts to produce the disease by feeding and inoculation of various tissues from paralysed birds to healthy birds were not successful. In one experiment it was found that the disease was not transmitted from the hen through the egg to the offspring. Also, paralysis seemed not to have any relationship with coccidiosis, since the flock had a very severe outbreak of coccidiosis as chicks.

In the 1930 Report of the above station experiments in progress are reported but no definite conclusion is reached. An important observation is made that "In studying the autopsy records of all paralysed chickens examined during the time this work has been in progress it has been observed that an *enteritis* was present in every case of the disease." In the 1931 Report it is stated that of 111 paralysed birds 63 were infected with coccidia, 41 had round worms, 52 showed tapeworms, and all had duodenal enteritis. Attempts to transmit paralysis by inoculation were unsuccessful.

Bushnell and Brandly (1929) found some evidence which indicates that coccidia and tapeworms may be associated with fowl paralysis.

Galloway (1929) reported that he has succeeded in transmitting the disease to fresh susceptible fowls by intracerebral inoculation of emulsions of the nervous system of diseased birds. Galloway considers fowl paralysis a specific condition caused by a virus. He believes that the disease is infectious.

Seifried (1930) observed the disease in Germany. The paralysis studied by Seifried appeared to differ somewhat from that of Marek, and as suggested by him might have been caused by a variety of the fowl pest virus. He was able to produce the disease in series by inoculation and feeding, and showed that the virus remained virulent for six months in glycerine.

Schurmann (1930) reported that he was not able to produce fowl paralysis by inoculation.

McGaughey and Downie (1930) reported observations on an outbreak of fowl paralysis in England. In two out of ten birds they found lymphomatous tumours in the skin. In two subsequent reports McGaughey (1930) and Marginson and McGaughey (1931) presented evidence that fowl paralysis may be transmitted through the egg. They state: "We do not intend to imply that this mode of spread is the only possible one, but desire to point out its importance. It would appear that the principal method of spread is through breeding from affected adult birds. Although spread by contact occurs, the process appears to be slow and somewhat uncertain." These authors do not mention in any of their reports the relation of intestinal parasites to fowl paralysis. Presumably they believe that a filterable virus is the cause of the disease.

In the Kansas Experiment Station Report (1928-1930) it is stated that fowl paralysis could not be reproduced by inoculation. It is believed that the lesions of fowl paralysis simulate a neoplastic growth.

Dearstyne and Greaves (1930) state that the exact cause of fowl paralysis is not known, although many factors are thought to be instrumental in producing the disease. They note that "Large numbers of autopsies in the past few years performed at the North Carolina State College have shown many paralysed birds to have an extremely large number of tapeworms in the intestines."

Newsom (1930) states that the cause of fowl paralysis is not known. He refers to the lesions in the nervous system and the lymphatic tumours in the ovary found on *post-mortem* examination, and records that 50 per cent. of the cases show coccidia in either the duodenum or caecum.

Lee (1930) considers catarrhal enteritis to be the most constant condition associated with fowl paralysis. He thinks that the disease is caused by toxins elaborated in the intestine and

which may pass through the damaged intestinal wall. Any fowl with chronic intestinal inflammation of dietary origin or accompanying a parasitic infestation may develop paralysis.

Lee and Elder (1930) found that fowl paralysis was always associated with inflammation of the intestines. One of the most common causes of inflammation of the intestines of chickens is coccidia. "In fact, we have been able to find coccidia in practically all cases of fowl paralysis when thorough examinations have been made. We therefore believe that chronic coccidiosis is one of the most important causes."

Baudet (1930) drew attention to the frequent occurrence of paralysis without it being possible to demonstrate the presence of *Davainea proglottina*. It is doubtful, he states, whether this parasite is actually the cause of the paralysis. It is not definitely known whether, in cases in which tæniæ are found and symptoms of paralysis are also present, the parasites play any part in the production of these symptoms.

In a review (1930) of Bayon's paper "Connection between Tapeworms and Leucæmia in Hens," the following statement appears: "Up to a short time ago the opinion was prevalent that *Davainea proglottina* was one of the most frequent causes of paralysis in hens. It appears now, however, that paralysis occurs in hens, caused by a certain virus, without one single tapeworm being found. The question now arises as to whether these tapeworms can cause paralysis independently or that they were incidentally present in those cases in which the virus was the cause of the paralysis, or can these parasites work predispositionally in the same way as Bayon claims to have proved in the case of leucæmia."

Barile (1931), in a preliminary note on "Encephalo-myelitis and Paralysis of Poultry," defines encephalo-myelitis of poultry as a fatal infective and transmissible disease which may occur as an enzootic in which the central nervous system, the alimentary tract and the eyes may all be involved.

Findlay and Dalling (1931) state that the etiology of fowl paralysis is not definitely known, although it is most probably due to an ultra-microscopic virus. Pathologically the disease is characterised by tumour-like growths on the peripheral nerves and by an encephalomyelitis. They consider Marek's fowl paralysis to be identical with the neuro-lymphomatosis of Pappenheimer. In reviewing the above note on "Encephalitis in Marek's Fowl Paralysis" by the above authors, Doyle remarks: "There is no definite proof that the paralysis observed during recent years in America and in Great Britain is identical with that described by Marek and there is no reliable evidence that the causal agent is a virus."

Emoto and Miyamoto (1931) found that coccidiosis, intestinal parasites or faulty nutrition could not be considered as the true causative agent of fowl paralysis. The pathology of the disease and the epidemiology strongly suggest that it is of an infectious nature. They claim that the disease was introduced into Japan by imported breeding stock.

Blount (1931) suggested that "One factor in the causation of certain avian diseases, among which may be included so-called fowl paralysis, is the feeding of grit of improper constitution. Devitalisation of the intestines occurs, and toxins are absorbed into the general system."

Downham (1931), in discussing fowl paralysis, states that "Opinion varies as to the cause of the disease which has become known to poultry keepers as fowl paralysis, and some of the suggestions put forward are as follows: (1) a filterable virus; (2) faults in nutrition, especially with regard to the high protein content of the food; (3) deficiency in the calcium or phosphorus content of the blood; (4) metallic poisons acting upon the nervous system (*i.e.*, lead from water pipes); (5) intestinal worms and coccidiosis.

Downham found that in flocks where paralytic symptoms of the legs and wings predominated, there was generally a very heavy infestation with coccidia. He is of the opinion that "A great deal of paralysis may be caused by the presence of certain forms of coccidia. The eye lesions and blindness may possibly result from toxins elaborated by certain nematode worms, and the way may be prepared for an infective agent to reach the nervous tissues by means of the blood stream, by infestation with either of the above parasites." In another paper Downham (1931) remarked that he has always found *Heterakis* worms in paralysed birds, and that while this may be purely a coincidence, yet it appears worthy of mention.

Beaudette and Hudson (1931) regard fowl paralysis as a transmissible disease caused by a filterable virus. In their opinion, "The disease constitutes a clinical entity and has but one primary cause." They believe that one of the modes of transmission is through the egg. Their reaction to the suggestion that coccidia may cause fowl paralysis is illuminating. It is as follows:—

"It is a common failing to suspect coccidia as the cause of every new disease. In the last thirty years, the coccidium has been incriminated in white diarrhœa, blackhead, quail disease, roup, diphtheria, and by some persons more recently as the cause of the so-called 'hock disease' and 'crazy disease.' Nature is more original than she is given credit for being, and need not rely upon such versatility in one parasite. Consequently, there exists a cause for every disease and although the manifestations may vary within certain limits, they are not likely to be so different as to permit the inclusion of such a variety of diseases as in those listed above."

Tomhave and Mumford (1931) state in the Annual Report of the Delaware Experiment Station that none of 18 normal pullets developed paralysis when kept in close contact for six months with 37 birds showing advanced symptoms of paralysis.

Bayon (1931) reported on an outbreak of acute *Neurolymphomatosis gallinarum* in a strain of Rhode Island Red fowls. The birds were infected with *Davainea proglottina*, but not with coccidia. He found that the disease was restricted to the progeny of certain strains of birds.

In a second report Bayon (1931) again noted the presence of *Davainea proglottina* in some of the paralysed birds. He states: " The observation of *Neurolymphomatosis gallinarum* in the field seems to indicate that though several different parasitic infestations, but more particularly *Davainea proglottina* and coccidia, may initiate paralysis, yet the acute and chronic form of the disease, *Neurolymphomatosis gallinarum*, may develop without the presence of such parasites." He adds that nutritional factors may play a part in the complex picture of the ailment. Bayon does not consider fowl paralysis to be straightforwardly infectious, but requiring the action of different agencies before it can develop.

In a third report Bayon (1932) states that *Neurolymphomatosis gallinarum* is not easily communicable and whilst frequently aggravated by the presence of different parasites, such as coccidia, cestodes, etc., yet can develop without their aid. Similarly, the lack of vitamin A, and possibly also C, particularly at an early stage, influences the development of *Neurolymphomatosis gallinarum*, but cannot cause it. The author was not able to produce fowl paralysis by inoculation.

Taylor (1931) records a rather interesting experience with a flock of birds in which symptoms of anæmia and paralysis were associated with a heavy infestation of *Davainea proglottina*. The soil was treated with $CuSO_4$ and lime, and although the birds raised on this ground the following year were free from tapeworms, unfortunately paralysis and other symptoms recommenced, so that in this case worms had to be ruled out as the cause of paralysis.

Warrack and Dalling (1931) state that two main schools of thought exist regarding the cause of fowl paralysis: (1) the disease is a specific entity, and probably due to an ultramicroscopic virus; (2) that it is a sequel to intestinal troubles, among which coccidiosis, worms, especially tapeworms, and general errors in feeding are said to be the causes. Although the authors have evidence in support of both views they appear to favour the virus theory.

Gibbs and Dunlop (1932) recognise three types of avian paralysis: (1) nutritional; (2) parasitic; and (3) neoplastic. These three are regarded as distinct entities.

Warrack and Dalling (1932, A and B) paid special attention to the question of the presence of parasites in the intestine, the state of the duodenum and the feeding methods adopted in the various affected flocks. They examined birds from 33 flocks and found coccidia in the cæca of 23, coccidia in the duodenum of 10, cæcal worms in five, tapeworms in five, round worms of various species in four. In nine, or 27·2 per cent., no parasites of any recognised variety could be demonstrated. The authors consider the following conclusions warranted: " Fowl paralysis exists as a specific disease; it can be transmitted to healthy birds by artificial means; the disease may exist without the presence of intestinal parasites, including coccidia, and can be reproduced in birds which have never been exposed to such parasitic infestation. Coccidia and other intestinal parasites are prevalent in many outbreaks, but it is our opinion that they are not primarily concerned in the causation of fowl paralysis. It seems probable that intestinal parasites, errors in feeding, and inbreeding, predispose to the production of symptoms. In the absence of the causal factor (at present unknown, but contained in tissue of affected birds), they are incapable of causing evidence of true fowl paralysis. It seems practically certain that the disease may be transmitted through the egg and that the cockerel as well as the hen may be the transmitter. The results of the experiments indicate that fowl paralysis is caused by a filterable virus." It should be noted that Warrack and Dalling regard lymphomatous tumours as one of the manifestations of fowl paralysis.

Hamilton and Blount (1932) studied the relation of intestinal parasites to fowl paralysis in 67 outbreaks. Coccidia were the predominating parasite in 21 instances. *Davainea proglottina* were in excess in nine cases and *Ascaridia* and *Heterakis* were each dominant on two occasions. The authors state: " If, therefore, it can be presumed that the finding at *post-mortem* examination of numerous coccidia is significant as to the causation of a disease (in the absence of other pathological findings), it should be clear from the foregoing results that fowl paralysis is not due to coccidia or to any known intestinal helminth."

The authors suggest that coccidia may play the rôle of an accessory factor in the causation of the disease. They state that " The one constant factor seen at *post-mortem* examination is intestinal derangement. This occurs even in those cases when no parasites can be demonstrated, and when no nerve enlargements are observable to the naked eye. The derangement

mentioned consists of changes remarkably constant in the duodenum, namely catarrhal inflammation associated with pin-point or generalised hæmorrhages, with or without thickening and pigmentation (probably of bile origin)."

" It would appear that should a virus factor be confirmed, there exists in fowl paralysis an agent (or series of agents) which devitalises the small intestines (parasites, improper foodstuffs, etc.), after which a virus is allowed to enter the animal's system to cause paralysis."

Mayhew (1932) has observed 27 cases of spontaneous fowl paralysis in his studies of experimental coccidiosis. The paralysed birds were reared under the same conditions and received the same feed as the non-paralysed birds. The fæcal examination records revealed the fact that 13 of the 27 cases of paralysis showed no infection with coccidia or intestinal parasites. The accuracy of the examination is suggested by the fact that 191 control chickens were raised in 16 lots under the same conditions without infection. He concluded, therefore, that fowl paralysis is not caused by coccidiosis or intestinal parasites.

Biely and Palmer (1931-1932) reported that they never encountered round worms, cæca worms or tapeworms in any of their experimental birds which developed fowl paralysis. They did not consider coccidiosis to be the causative agent of fowl paralysis, since in their experiments many of the paralysed birds were entirely free from coccidiosis.

Asmundson and Biely (1932) presented evidence that hereditary susceptibility or resistance plays an important rôle in the occurrence of fowl paralysis. Their data indicate that resistant birds differ from susceptible birds by a single dominant gene. Consequently they suggest that it should be a relatively easy matter to breed strains of domestic fowl that are highly resistant to fowl paralysis.

Biely, Palmer and Asmundson (1932) reported on a significant difference in the incidence of fowl paralysis in an apparently resistant group and in a susceptible group of chicks. Both paralysis and lymphomatous tumours occurred in the chicks of the susceptible group. The authors believe that fowl paralysis may be transmitted through the egg. It is interesting to note that Biely and Palmer (1932) found lymphomatous infiltrations and tumours in the testes and other viscera of male birds. They consider the lymphomatous tumours to be one of the manifestations of fowl paralysis.

Johnson (1932) found that " coccidiosis did not seem to render birds more susceptible to any substance in the tissues of a bird with symptoms and lesions of paralysis and blindness." The author did not obtain definite evidence as to the transmission of the disease through the egg or by feeding of infected tissue from paralysed birds to chicks affected with coccidiosis. He states that " It seems possible that fowl paralysis is due to an infectious agent which attacks chicks very soon after hatching and that a large number of birds with a slight attack develop immunity, while in others the various forms of the disease may develop."

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TRAINING SCHEME FOR BLACKSMITHS

Lord Ebbisham, who, in the absence of the Lord Mayor through indisposition, was the principal guest of the Blacksmiths' Company at a Livery dinner at Innholders' Hall, said that efforts were being put forth with a view to connecting up the old organisations of farriers and blacksmiths with the newer developments.

Mr. A. J. Adams referred to the initiation of a scheme for training working blacksmiths, to whom were awarded prizes. The idea was to teach them to produce something beautiful.

POULTRY HUSBANDRY

W. P. BLOUNT, F.R.C.V.S.
Goring, Oxon.

A student of a veterinary college in this country is allotted very little time for the study of poultry husbandry, and unless he has had practical experience on a poultry farm it is probable that the student will not be familiar with the general management of one. Further, as it is possible that a large number of practitioners do not get an opportunity of visiting many poultry establishments, the writer has felt that a brief review of the subject may not be out of place—particularly since it is advisable for veterinarians to be at ease with such terms as "slatted floors," "battery brooders," etc., should their professional services be sought on matters concerning poultry and their diseases.

It is convenient to discuss the subject of poultry husbandry under four headings:—

1. Breeding.
2. Rearing.
3. Housing.
4. Feeding.

BREEDING

Having chosen suitable stock for this purpose, *i.e.*, birds of good size, pedigree and egg records, the blood agglutination test is applied and all reactors are removed. The remainder may be divided into "pens" containing from 8/12 females and one mature cockerel or cock—this constitutes *individual mating*. Alternatively, a larger number of female breeding stock with a suitable number of males (one to 12 to 20) may *all* be penned together—this is termed *flock mating*. This latter practice has developed extensively, but it is not to be favoured, because it is possible for every female to be mated at some period or other with *one* of the males. Hence if a particular male bird is in any way defective, some chicks from all the hens will be similarly affected and the results may be disastrous, especially if disease factors are associated.

In order to preserve the stamina of a strain of birds it is necessary for all the breeders to be mature, *i.e.*, either full-grown pullets or hens and fully developed cockerels or cocks.

"Pullet breeding" may be the cause of serious losses in flocks if the pullets are immature, *i.e.*, if they are used for breeding purposes before they have been in lay for at least 12 months: at this period such pullets should be at least 18 months of age. Chicks born of immature stock are often weak, and quickly succumb to coccidiosis, contagious nasal catarrh, etc., and if this practice is repeated year after year, devastating results may follow, purely from the debilitated condition of the progeny at birth.

In-breeding is a fairly common practice amongst keepers of pedigree poultry, but the faults of such a system are too well-known to be

emphasised further. On an ordinary commercial egg farm in-breeding is not common and seldom an important factor in the development of outbreaks of disease, but on pedigree farms in-breeding may be practised extensively.

In the choosing of breeding pullets two factors are usually considered, namely, body size as indicated by the depth of the animal from breast-bone to backbone, and egg-laying capacity, which latter is estimated by the distance between the pelvic bones (*i.e.*, the number of fingers which can be inserted between the posterior, free extremities of these bones. If less than three, the egg-laying propensities are poor). Unfortunately, however, too little attention is paid to the other extremity of the bird, for the "head end" may be an important guide as to the bird's powers of producing stock liable to suffer from latent or active fowl paralysis. In a healthy mature bird, the iris is seen to be tinted with various shades of colour. Around the pupil, which is usually fairly wide and subject to marked variations (according to the intensity of light and other factors capable of stimulating the sympathetic nervous system) may be seen a narrow ring of grey pigment with both edges sharply defined; next appears an area of yellow which passes quickly into yellow-gold, gold and then an extensive red-golden "ring" may be seen. (For interpretation of these rings the reader may be referred to an article by the writer in which a description is given of the colourings of the iris (Blount, 1931).) However, there are sometimes present in a flock of birds, animals which possess other tints to their iris. The golden area may have disappeared in part or *in toto*, due to an infiltration of mononuclear cells which are characteristic of fowl paralysis, and are associated with the grey tints. Such degeneration may involve the whole of the iris—the common term for which is "pearly," "grey" or "green" eye. It is often seen to be accompanied by poor visual accommodation even to the extent of complete paralysis of the *dilator pupillæ* muscle fibres of the iris. Such birds frequently appear normal in all other respects, as seen by the naked eye, and may therefore be included by a poultry breeder in a breeding pen, but if bred from there is a grave danger that *neurolymphomatosis gallinarum* will exist in the progeny and heavy losses occur from this disease or associated intestinal parasitic infestations.

REARING.

Breeders of pedigree poultry who endeavour to acquire stamina and vitality in their stock still "hen-hatch" their eggs, but the majority of poultry keepers use incubators. Such artificial apparatus are usually "hot air" machines, the heat being supplied by an oil lamp, although some derive their warmth from electric contrivances whilst others are of the "hot water" type. Owing to the enormous demand for stock many poultry keepers have adopted the use of "mammoth" incubators which are capable of holding several thousand eggs and which are ventilated by a forced draught system. Also, for commercial reasons, "hatcheries" have been established. These farms specialise in the production of day-old chicks, but unfortunately their reputation is not always as satisfactory as would appear from their advertisements. Owing to the enormous demand for chicks for egg production and table purposes, managers of hatcheries have been compelled to accept eggs from immature breeding stock—weak, degenerate birds—and a widespread distribution of fowl paralysis has resulted.

From the incubator, chicks may be taken to several types of houses for "brooding" purposes. In Nature, hens exert a considerable influence over their progeny, but this factor is lost under modern conditions of domestication. It is now uncommon to find a broody hen in a coop clucking to her chicks because usually the latter go straight to intensive "brooder houses" where they pass a most unnatural existence. A "hover" provided with an oil lamp furnishes an adequate amount of heat to the chicks, which frequently spend the whole day eating from a "hopper" containing a proprietary dry mash preparation—water being provided in a drinking "fountain" probably situated at the other end of the house. Large brooder houses are often heated by a hot water system, the house being divided into several compartments, each capable of holding 100 to 200 chicks.

Nowadays chicks are usually housed intensively, *i.e.*, unnaturally, away from the earth, climatic elements and physiological foods, etc., for a period of four to twelve weeks. This method has been introduced because of the possibility of coccidiosis killing off a large proportion of chicks and also to enable breeders to hatch chicks in the cold months of the year, *i.e.*, December, January and February, but it is a method which has been abused, with the result that thousands more chicks are reared to early maturity than is ordinarily possible, disease has become rife and financial losses heavy.

An even more extreme method for housing chicks is the so-called *battery brooder*, which, as the name indicates, is capable of brooding batteries or large numbers of chicks over a small area. A better name would have been "mass producer," for about 60 chicks are placed in a "drawer" three feet square. Water and mash are provided in unlimited quantities and about four tiers of drawers are present, so that an ordinary dining room (if used for holding a battery brooder) can accommodate easily several thousand chicks. After four weeks' such confinement these chicks, which are usually overgrown for their age, pass into a so-called "cooler battery" where the temperature is about 65° instead of 85° F., as in the battery.

In a previous article, the writer (1932) has indicated that four features are essential for the healthy development of animals, namely, adequate (1) exercise, (2) fresh air, (3) sunshine and (4) occupation of the mind. Battery brooders will be seen to be deficient in all these respects, hence their complete failure for brooding stock to be used for egg production or breeding purposes.

More rational poultrymen have adopted a semi-intensive housing system for young growing chicks, whereby the birds are allowed to partake of Nature and her products as well as being able to shelter from excessive cold or rain.

When chicks leave battery brooders or intensive rearing houses, they are usually placed out of doors, but their housing is seldom good because, for economy's sake, they are placed in small, portable, "slatted floor" *night arks*. These structures are about 6 ft. by 3 ft. by 2 ft. 6 in. in size and hold from 60 to 80 growing birds. Under ordinary circumstances such small houses would be hopelessly overcrowded with these large numbers of birds, but the peculiarity of the flooring allows adequate intake of air without the production of draughts. Aeration of of the house is often completed by "ridge ventilation" for exit purposes. When inspecting the housing condition of birds it is important to see that all slatted floors are raised from the ground so that an undercurrent of air is capable of entering the structure. Not infrequently carpenters making cheap houses copy the slatting of the floors but, not being familiar with the hygienic principles involved, carry the sides and ends of the houses right down to the ground, thereby nullifying the object in view.

There is frequently a tendency for these houses to become overcrowded should three or four be placed close together, because at night time birds often sleep in the "nearest at hand" and in consequence some houses become too full and ventilation inadequate.

A further disadvantage concerns the slats; these are made of wood about ¾ in. square and placed so close together that perching is impossible. The birds, by means of their claws, sit instead of *perching* and, as their hocks rest upon other slats, bruising occurs followed by a thickening and deformity of the tendons seen as a curb. As an alternative to slatted floors "wire floors" or thicker "chain floors" have been utilised, but these are of no more avail in facilitating the natural act of perching. The evils of such housing have been pointed out in the lay poultry Press and it is hoped that manufacturers will produce accommodation which aids physiological functioning as well as economical demands. It would appear practical to arrange for perches to be placed upon wire floors. Ventilation from below could then occur as in ordinary slatted-floor houses whilst the perches would give a more natural object for the claws of the birds to grip, thus allowing the birds to sleep in the natural resting posture—the wire would allow birds to pass from one perch to another easily.

FEEDING

For some considerable time poultry keepers have endeavoured to economise in order to meet various "depressions" and *apparently* one of the most successful methods has been the reduction in labour costs associated with the introduction of all *dry mash feeding*. Instead of giving several feeds a day to birds it is considered only necessary to fill the food hoppers once every few days with dry mash and the animals look after themselves. In the opinion of the writer the unlimited all dry mash method of feeding young growing chicks is absolutely wrong in principle and should not be supported, because:—

(1) It favours overloading of the digestive tract.
(2) It stimulates growth at a rate far in excess of the physiological optimum.
(3) It prevents the gizzard from functioning correctly because the latter is never educated to receive hard, solid foodstuffs such as are ingested from free range.
(4) In the light of the three preceding factors it favours the development of intestinal parasites.
(5) It is often wasteful.
(6) It prevents birds from scratching for their food and so exercising themselves naturally.
(7) It does not aid "occupation of the mind."
(8) It suggests to the poultry keeper that insoluble grit is unnecessary for birds, since the food is already ground.
(9) It allows an attendant to become slack and lazy, for in providing several hoppers full of mash some of these need not be filled for about a week. Some food remaining at the bottom of the hoppers may never be cleaned out, and is therefore liable to become stale and unwholesome.
(10) It produces early maturity and abnormally stimulates the initial functioning of the ovary.
(11) It may favour the development of duodenal irritation (catarrhal duodenitis) because chicks gorge themselves with dry mash and frequently fail to drink a sufficiency of fluid. Such duodenitis may prepare the way for tapeworm infestations, and bile retention.

In a physiological environment chicks acquire insect, verminous and other invertebrate animal life, together with living grasses, seeds and grain, etc., so that the contrast with a proprietary dry mash is great. If practicable, chicks should be allowed as much "free range" as possible, but if semi- or complete confinement is necessary, a grain, grit and wet mash diet is preferable.

It should be understood that the word grit refers to granite, flint or gravel stones which are

insoluble in the fluids present in the gizzard and therefore are capable of acting as pestles inside the powerful muscular "mortar" of the "stomach." Contrasted with such grit is that which is soluble, *i.e.*, limestone, cockleshell, oystershell or "fossils" and which is primarily fed because of its rich content of lime, frequently necessary for the proper formation of eggshells. Such soluble grits are obviously unnecessary for young chicks (provided their diet contains a sufficiency of calcium for bone formation purposes) since the oviduct is non-functionable at this period and therefore large quantities of lime are unnecessary. Further, it needs to be appreciated that lime poisoning may occur if birds receive foods containing lime, mineral mixtures rich in lime, unlimited supplies of lime-containing soluble grits, and more especially if such birds are housed upon chalk or limestone pastures.

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FOOT-AND-MOUTH DISEASE PRECAUTIONS

Orders aimed at checking still further the risk of imported foot-and-mouth disease have just been issued by the Ministry of Agriculture. The first is a re-issue of the Importation of Meat (Wrapping Materials) Order made in April this year. It prescribes that imported meat shall be wrapped in cloths of a prescribed pattern with a view to preventing such wrappings being used again for the package of articles which may find their way to farms. Feeding stuffs, fertilisers, etc., may not be landed in bags or sacks made from meat wrappers and may not be sold in such wrappers.

The Foot-and-Mouth Disease (Boiling of Animal Foodstuffs) Order of 1932 provides that persons having any meat, bones, offal, swill, etc., in their possession shall boil them before feeding them to animals. Proprietary foodstuffs manufacturers holding certificates are exempted from the Order.

Clinical and Case Reports

ACTINOMYCOSIS IN A DOG

A. LESLIE SHEATHER, D.Sc., M.R.C.V.S.

Chorleywood, Herts

Although a comparatively rare condition, actinomycotic lesions in dogs have been recorded on a number of occasions.

In 1882, Vachetta described a lesion of the jaw of a dog in which an actinomyces was found. Two years later Rivolta recorded a case of suppurative pleurisy, the pus from which contained small whitish granules composed of filaments. In this case, however, it was specifically stated that the filaments were not branched, but leptothrix in type. The pleural surfaces were covered with a soft spongy tissue. In 1888 Rabe reported three cases of suppurative adenitis of an actinomycotic nature in dogs. In one of these there was also purulent peritonitis.

Hartl, in 1901, encountered a case in which antino-mycotic "tumours" were found involving the chest wall and the mediastinum.

Reference to the recently published book by Nieberle and Cohrs — "The Pathological Anatomy of the Domesticated Animals" ("Lehrbuch der Speziellen Pathologischen Anatomie der Haustiere," 1931), would appear to indicate that little has been added to our knowledge of the condition during the last fifty years.

The following is a translation of the reference made to the disease in the German textbook. "So-called streptotrichosis (atypical actinomycosis) of the dog. — The so-called streptotrichosis of the dog is an infectious disease resembling actinomycosis. Infection probably takes place through wounds. From the primary lesion dissemination to other organs occurs, particularly to the peritoneum and the pleura."

"Microscopically the picture presented is one of chronic suppuration. The pleural cavity contains a large amount of purulent exudate in which white granules can be detected. These are found on microscopic examination to be streptothrix colonies. The pleura is thickened and covered with a layer of velvety granulation tissue of a pink colour. This tissue is remarkable for its richness in capillaries of large calibre."

The case figured and described here was sent to me by Mr. A. E. Payne, F.R.C.V.S., some three years ago. Absence of facilities for photography at that time caused postponement of publication.

The specimen received was a piece of very fragile, ragged-looking tissue which at first sight rather suggested a finely divided papilloma. The appearance presented is shown in

Fig. 1.
Piece of granulation tissue from the pleura. Natural size.

Fig. 1 at natural size. Mr. Payne told me, in his letter which accompanied the specimen, that the chest cavity was full of this kind of tissue.

While it was obvious from the microscopic examination of sections that the tissue was a soft and very vascular granulation tissue, nothing could be found in the first two or three pieces embedded to account for its formation, but in sections cut from the deeper parts typical colonies of streptothrix filaments were readily found. The filaments were embedded in an amorphous matrix which stained rather intensely with eosin, but club-shaped thickenings could not be made out with certainty round the margins of the colonies. These colonies were surrounded by small pools of pus enclosed in the granulation tissue.

Fig. 2.
Part of a streptothrix colony. × 300.

Fig. 2 shows a portion of one of the colonies under a magnification of 300. The specimen was stained by Gram-Weigert, but no counter-stain was used, as it tended to reduce the visibility of the filaments in photographs.

A SUCCESSFUL NEW LOCAL ANÆSTHETIC

T. JENKINSON RICHARDSON, M.R.C.V.S.
Beckenham

Experiences and results obtained through the use of " Novutox," a new local anæsthetic, may possibly be of interest to those members of the profession who engage in small animal practice.

After prolonged trials with " Novutox " one cannot speak too highly of it. The period of anæsthesia is quick and certain—the site in the majority of cases being ready under five minutes—and the period of anæsthesia is long, thus enabling suturing to be carried out without recourse to further injections.

" Novutox " has been found to be particularly useful in septic conditions and no instance of the occurrence of necrosis following its use has been observed, even when liberal use of this preparation has been made and when one might expect trouble had other local anæsthetics been employed.

" Novutox " appears to stimulate the healing process and wounds heal much more quickly after its use: more especially is this noticed in cases where malignant growths have been removed.

The keeping qualities of " Novutox " solution are excellent. No preparation or sterilisation is required and it can be used straight away. It is claimed that the solution is self-sterilising and this certainly appears to be borne out in practice.

A few ordinary conditions met with in small animal practice and treated with the aid of " Novutox " may be cited:—

Prolapse of the Vagina in a Doe.—In this case the prolapse had been in evidence for some six hours before being treated. The prolapsed portion was thoroughly cleansed with saline solution and " Novutox " (2 per cent.) injected into the mucous membrane at various points: the organ was then replaced and the vulva sutured. After two days the suture was removed and a short time after some vaginal mucous membrane was showing; this was again injected with " Novutox " and replaced. From that time the doe made an uninterrupted recovery.

A Granuloma below the right eye of a

10-months-old Daschund was successfully removed with the aid of "Novutox" and first intention healing took place.

Amputation of the Toe in a fox terrier, five years old, necessitated owing to necrosis of the bone resulting from a bite wound, was successfully carried out with the aid of "Novutox" injections. Healing took place remarkably quickly, and within three weeks the dog was walking without a limp.

Tooth Extractions in cases of pyorrhœic mouths are greatly facilitated by the use of "Novutox," with arrest of hæmorrhage and quick healing of the sockets.

* * * * *

UTERINE ATRESIA IN A HEIFER*

S. JAMIESON
Glasgow Veterinary College

Subject.—The patient was a white Shorthorn heifer in good condition. According to the owner it had shown a varying degree of uneasiness for about a month before and had recently exhibited some difficulty in urinating.

Symptoms.—The animal was in a state of semi-coma, lying on its right side and with its head and neck stretched out. Respiratory movements were rapid and abdominal.

Pulse.—The pulse rate was rapid, yet decidedly irregular in its force.

Temperature.—103·5° F.

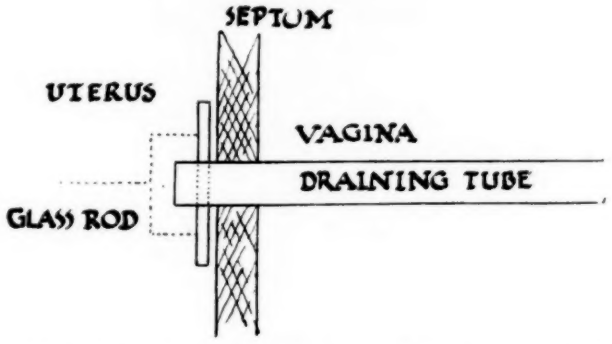
The vulvar and vaginal mucous membrane was slightly hyperæmic and the clitoris was frequently erected. The patient exhibited considerable signs of straining as if it was trying to expel some foreign body or had considerable difficulty in micturition. Manual examination per rectum revealed ventrally a large, rounded, exceedingly resistant mass which extended as far forward as could be explored. Manual exploration per vaginam revealed a complete occlusion of the uterus by a fairly hard septum.

Diagnosis.—A diagnosis of uterine atresia was concluded and with a view to salvage operative measures were decided upon.

Modus Operandi.—As a primary measure the catheter was passed and about 100 c.cs. of normal-looking urine removed.

A trocar-canula was now introduced into the vaginal passage and the septum pierced. On withdrawal of trocar a dark, sanious, fœtid fluid escaped slowly. The canula was now withdrawn and an incision was made through the septum with a guarded scalpel. Immediately about 3-4 pints of the previously described fluid escaped.

Treatment.—The uterus was now douched with a solution of 1-2,000 perchloride of mercury, which was syphoned off. The process was repeated two or three times. A sterile rubber drainage tube was then introduced through the incision and retained by means of a glass rod passed through the end of the tube. (See sketch.)



About twelve hours later the animal had regained its feet and a purgative was administered, *via* stomach tube, in the form of Epsom salts 1 lb., in treacle 2 lbs.

Two days later the farmer informed us that the animal had died that morning.

Comments.—I understand that the condition of uterine atresia or imperforate hymen (Fleming's "Obstetrics") is of considerable rarity and seems to be associated with heifers of a white colour. I have been unable to elucidate any connection between the colour and the condition. In the above treatment I thought that the subcutaneous injection of camphorated oil 1:4 would have been helpful, as there must have been a considerable amount of shock when the retained fluid was liberated.

* Case in series submitted for award under the N.V.M.A. Clinical Prize Scheme for Students, 1931.

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NATIONAL RAT WEEK

National Rat Week has been fixed this year for the week commencing November 7th, and the Ministry of Agriculture has communicated with all the local authorities responsible for the administration of the Rats and Mice (Destruction) Act, 1919, inviting their co-operation. Under the Act it is the duty of all occupiers of lands and premises to destroy any rats infesting their property, and to take any necessary steps to prevent it becoming infested, and the authorities have been requested to arrange that, as far as possible, concerted action shall be taken by all the parties concerned.

Having regard to the enormous amount of avoidable damage caused by rats and the fact that they constitute a grave menace to public health as agents and carriers of disease, it is important that every effort should be made to reduce their numbers.

While the Ministry welcomes and encourages all effective measures which may be taken by occupiers for the destruction of rats and mice, including the employment of ratcatchers, it desires to warn farmers and others to be on their guard against persons representing themselves to be official ratcatchers employed by the Ministry and offering their services, on payment of a fee. The Ministry does not employ any ratcatchers, and persons claiming to be so employed have been convicted and sentenced to imprisonment for practising this kind of deception.

Abstracts

[The Treatment of Burns in Out-patients with Reinforced Tannic Acid Dressings. Hunt, J. H., and Scott, P. G. *The Lancet.* No. xv (October 8th) of Vol II, 1932. pp. 774-776. Refs. 12.]

The excellent articles to which references are given at the end of this paper clearly set forth the principles involved and the methods employed in the tannic acid treatment of burns which are serious enough for the patient to be admitted to hospital, but little has been written on the application of this method to burns and scalds which, though usually of minor degree, often prove difficult and disappointing to treat.

The difficulty in the application of the tannic acid treatment for burns—which possesses outstanding advantages over other methods—lies in the necessity for forming a thick crust at a single dressing and in preventing this crust becoming soft, septic and detached under a bandage. Reinforcement of the crust suggested itself as a possible way out of the difficulty, and the three methods tried were: (*a*) a saturated solution of tannic acid in ether (2½ per cent.) reinforced with gauze; (*b*) tannic acid in ether reinforced with gauze and collodion; (*c*) tannic acid (5 per cent solution) in water reinforced (on the third day) with collodion.

The first method has been found excellent when the burns are extensive and dirty, or when oil or grease has been used as a first-aid dressing; in fact, in any conditions necessitating thorough cleansing with ether or ether soap. The second method is satisfactory in clean cases: the extra strong crust resulting from the combined effect of gauze and collodion is especially suitable in restless subjects. It is believed that the third method will be found to have the widest application. Little pain is felt, and by suspending the use of the water solution on the third day, and by strengthening the crust with collodion, the chance of the affected area becoming moist when covered with a dressing is considerably diminished. The results from this series of 63 consecutive cases have been very encouraging. The agents used for reinforcing the crust all help to prevent that primary disastrous separation at the edge where it is in contact with the skin and its organisms: it is here that strengthening is most essential if sepsis and consequent softening of the crust are to be prevented.

W. B.

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[*BR. ABORTUS* Infection in Poll-evil and Fistulous Withers in Horses. Schoop. *D.T.W.* No. 33. August 13th, 1932. 520.]

Since 1919 the presence of *Br. abortus* agglutinins in the blood of horses suffering from poll-evil and fistulous withers has been noted by workers in France, America, Holland, Sweden and Australia, and this article deals with such cases in Germany. The author's observations deal with nine horses, of which six were affected with fistulous withers and three with poll-evil. Six of these animals reacted serologically to *Br. abortus* in a titre of over 200; all three affected with poll-evil were positive. In general, the positive reacting animals were debilitated; they had been farm horses (therefore associated with cattle), and the average age was eight years. Two horses with negative titres were from the army.

From the positive cases only once was *Br. abortus* obtained in culture by seeding material from a freshly-opened lesion. The author states that guinea-pig inoculations were not regularly successful, and concludes that the micro-organisms occur sparsely in the lesion or are easily supplanted by stronger growing types. He is of the opinion that titres of 1 : 200 to 1 : 2,000 indicate infection with *Br. abortus*, since control horse sera rarely agglutinated higher than 1 : 10.

Infection of horses with this micro-organism appears to localise in trauma, etc., contrary to its habitat in cattle. Since infection probably results from cattle, prevention would appear to imply the following points: (1) horse grooming kit should not be used for cattle; (2) quarantine of newly-purchased horses should not be undertaken in cowsheds, and *vice-versa*; (3) foals should not be fed with uncooked cows' milk. Surgical treatment of such cases may be assisted by the inoculation of specially prepared killed vaccines, which facilitates recovery.

W. L. S.

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[The Control of the Ox Warble Fly. Götze. *D.T.W.* No. 29. July 16th, 1932. 449.]

Theoretically it is possible to attack *Hypoderma bovis* at many points in its cycle of development, but the author thinks that at the present state of our knowledge the only practical method for controlling this pest is to kill all the larval forms when they appear on the backs of cattle and so prevent their pupation and subsequent development. With this end in view experiments have been conducted in Hanover to test the value of a number of larvicidal washes, salves, etc., including tricresol, salt solution, afridol soap, derris root, flit, paradichlorbenzol, and tetrachlorethylene. It is important that the remedy should be simple, certain and completely harmless to the host, and the only substance which entirely fulfilled these conditions proved to be derris root.

In experiments embracing 65 cattle the author was able to confirm the great utility of derris root, which has already been used in Britain, Holland and America. It is used as

follows. Pulverised derris root is mixed with cold water in the proportion of 1 : 10 and after shaking is allowed to stand one day. A solution of soft soap is now added before use, and one kilogram derris root makes ten litres of the cattle wash, which should be freshly prepared. The wash is applied in the region of the back and rubbed in over the site of the larvæ. The operation is quickly performed and should be repeated in two to three days. About half-a-litre is sufficient for each animal, and since a kilogram pulverised derris root costs from three to five shillings the process is cheap, and should be carried out before the commencement of the pasturing season. By universal application of this treatment the warble fly pest could effectively be controlled and the author hints at the need for official or semi-official action.

W. L. S.

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[**Severe Case of Diabetes and Cure.** Laue. *D.T.W.* No. 30. July 23rd, 1932. 469.]

A seven-year-old sheep dog for some weeks showed extraordinary thirst and depraved appetite. It consumed large quantities of water and expelled copious amounts of urine; in a three-quarters of an hour walk the dog was observed to urinate 28 times. When the animal was submitted to veterinary examination cloudiness in the eyes had developed. Chemical tests on the urine showed the presence of about 9 per cent. sugar, and the urine although clear, odourless and viscid, had a specific gravity of 1050. The eye trouble consequently was diagnosed as diabetic cataract. Although the abdomen was distended as in pregnancy, the uterus was ascertained to be non-gravid and the general condition of emaciation was ascribed to the presence of sugar in the urine.

Treatment consisted of the intra-abdominal injection of 15 c.cs. A.O.I. Bertram at blood heat (the composition of this substance is not given, but the author refers to his previous experiences with A.O.I. Bertram, *B.T.W.*, No., 7, 1931). This injection was followed by transient shock due to irritation of the peritoneum. Shock and the risk of anaphylaxis may be reduced by dilution with water or by admixture of two parts of homologous serum. The results of this treatment were striking. In a few days the sugar content of the urine fell to 4 per cent. The accompanying symptoms disappeared and after 13 weeks the eye trouble disappeared and urine sugar could no longer be detected.

W. L. S.

The Royal Dublin Society's show fixtures for next year are as follows: Show and sale of pedigree bulls, March 7th, 8th, and 9th; spring agricultural show, May 3rd to 6th; horse show, August 8th to 11th.

Reviews

[**Cross Saddle and Side Saddle (Modern Riding for Men and Women).** By Eva Christy. (Seeley, Service & Co., Ltd., 196, Shaftesbury Avenue, London, W.C.2. Price 12s. 6d.)]

For clarity of expression and for sound practical detail in all matters incidental to riding, it would be difficult to obtain a more complete treatise than the new book under the above title which Miss Eva Christy has put on the market through Messrs. Seeley, Service & Co., Ltd., at the price of 12s. 6d. The book is indeed a classic in the Art of Riding. It is profusely illustrated by photographs and diagrams explanatory of the *modus operandi* of that delightful form of exercise, taking the reader from the most elementary point to the standard of polished performance in the hunting field.

Miss Christy is not only a first-rate horsewoman, but she has spent a lifetime in teaching the novice, and by her authorship of books and her articles in the Press, in improving the knowledge of the made horseman and horsewoman. During the Great War she was officially appointed a Military Riding Instructor, and her services to her country in a serious national crisis necessarily command a dutiful respect. From so practical an authority words of wisdom therefore are to be appreciated, especially when such words are couched in a fine literary style. In these days of discussion on animal minds, her chapters on "Horse Psychology" and "Personality and Hands" are particularly interesting, and in the handling of the "Comparison between the cross seat and the side seat" her experience enables her to give a fair and unprejudiced opinion as to the merits of both styles. To those who are desirous of adopting the most rational and becoming attire the chapter on "Something about outfit" will prove valuable. The book having been specially written for the amateur, we commend its purchase by libraries and by all lovers of horses who are not only past masters in the equestrian art, but who are anxious to perfect their knowledge in the detail of riding equipment and its application.*

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[**"Here's Horse Sense."** By R. S. Summerhays. (Constable & Co., Ltd., London, W.C.2. Price 7s. 6d.)]

Mr. R. S. Summerhays, who writes for the

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*Note.—In the recently revived riding competitions at the Royal Veterinary College, London, held during the summer under the auspices of the Veterinary Medical Society of the College, the first, second, and third places were taken by lady students in open competition with men, the total number of entrants being twenty-six. By way of encouragement Miss Christy is presenting a copy of her book to the College Library.

Field, the *Polo Monthly*, and other papers under the pseudonym of Martin Gale, presents to the public a very delightful little book entitled "Here's Horse Sense," "A book for horse-lovers young and old." Portions of it have appeared in article form in the *Polo Monthly*, and he has been induced by friends to reproduce these articles in book form, elaborating the subject matter.

The book is a very pleasing departure from the usual technical books on the art of riding. The charm of it lies in a conversational style by means of which a beginner is gradually brought by analogy, inference, and reasoned judgment from the elementary to the made horseman or horsewoman, and to that necessary Fellowship of the Horse which counts for so much. The perfect understanding and sympathy between man and animal which close association always engenders is prominently and carefully brought out, for without this the pleasures of riding, hunting and racing are as nought. Precept and example form the essence of all the chapters, and the contents should prove not only of value to the novice who desires to improve his or her education as a sportsman or sportswoman, but should incite the interest and appreciation of the older generation of men and women who are experienced. Practical points have to be learnt, and these the book has laid itself out to supply.

The chapters are appropriately illustrated by sketches from Ralph Cleaver, and a pleasing frontispiece is by Gilbert Holliday.

To those youthful aspirants to fame in the hunting field, sons and daughters, the book would appeal as a fitting Christmas gift.

HONORARY DEGREE FOR DOCTOR THEOBALD SMITH

Dr. Theobald Smith, of the Rockefeller Institute for Medical Research, recently received the honorary degree, doctor of veterinary medicine, from the University of Giessen, Germany. The occasion was the hundredth anniversary of the granting of veterinary degrees at the University.

* * * * *

DOG BITES AND RABIES IN NEW YORK CITY

In an effort to reduce the number of dog bites occurring in New York City, the Health Department has made constant efforts to rid the city of stray animals. Presumably as a consequence, during the past few years the incidence of rabies has decreased considerably, but the number of cases of dog bites remains around 14,000 annually. It was thought that stray dogs were the chief offenders in the matter, but an analysis of dog bites during the first four months of 1932 showed that, of the 64 per cent. occurring in streets and other public places, 48 per cent. were by dogs known to have owners, and only 16 per cent. by stray dogs. This indicates that the chief offender is the dog whose careless owner allows him to be at large.—*Jl. A.V.M.A.*

ROYAL COLLEGE OF VETERINARY SURGEONS

Quarterly Meeting of Council

A Quarterly Meeting of Council R.C.V.S. was held at the College, Red Lion Square, W.C.1, on Friday, October 7th, 1932. Professor J. B. Buxton, President, occupied the chair, and there were present Dr. O. Charnock Bradley, Captain J. C. Coleman, Professor J. F. Craig, Mr. A. A. Donnelly, Professors S. H. Gaiger, F. T. G. Hobday, Messrs. J. Holroyd, R. Hughes, Major Hamilton Kirk, Messrs. G. H. Livesey, G. H. Locke, Sir John M'Fadyean, Professor J. Macqueen, Captain T. M. Mitchell, Mr. W. Nairn, Major D. S. Rabagliati, Drs. J. Share-Jones, A. Leslie Sheather, Lieut.-Colonel P. J. Simpson, Captain R. Simpson, Colonel G. K. Walker, Dr. A. W. Whitehouse, Mr. J. Willett, Professor G. H. Wooldridge and Captain W. G. Wragg.

The minutes of the previous meeting of Council, having been printed and circulated, were taken as read and signed as correct.

Letters of apology for absence were read from Major Abson, Colonel Brittlebank, Mr. Dolan, Major Dunkin, Major Spreull, Mr. Spencer, Mr. Male and Mr. McIntosh.

Obituary.—The Registrar read the names of members and Fellows of the College whose deaths had been notified since the last meeting, all present standing.

Admission to Membership.—The Registrar read the names of those who, since the previous quarterly meeting, had been admitted members of the College.

Reports of Committees

Finance and General Purposes Committee

In the absence of Mr. McIntosh, Chairman of the Finance and General Purposes Committee, Mr. Locke read the following report of a meeting of this Committee held on October 7th, and moved its reception and adoption, which was seconded by Dr. Sheather.

Mr. J. W. McIntosh was re-appointed Chairman of this Committee for the ensuing year. Mr. McIntosh thereupon took the chair.

Mr. G. H. Locke was re-appointed Vice-Chairman.

The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

Financial Statement.—The Treasurer submitted his Financial Statement for the quarter showing a balance in hand of £488 17s. 6d., in addition to £1,600 on deposit, and liabilities amounting to £88 7s. 8d.

The Treasurer's statement was approved and he was ordered to pay the liabilities shown together with cheques for current expenditure.

Investment of Funds.—On the Treasurer's recommendation that the sum of £1,500 might now be taken from deposit for the purpose of investment, it was resolved that the sum of £500

be invested in Assented War Loan and that £1,000 be invested in Liverpool 4½ per cent. Stock 1951-71.

Annual Fees.—The Secretary reported as to the number of members whose annual fees were in arrears and was instructed as to the action to be taken.

A letter was received from the Registrar of the Irish Free State Veterinary Council stating that the amount of fees due to be paid to the College in respect of members of the College on the Free State Register for the present year was £312 18s.

War Loan Conversion Bonus.—It was resolved that the sum of £32 5s. 1d. received as bonus on conversion of War Loan held in the College account be invested and that the sum of £19 8s. 8d. received as bonus in respect of the Library Fund be treated as income.

The question of repairs to the portraits of Carlisle, Fleming and Fitzwygram was deferred to the next meeting.

Mr. Livesey: I should like to ask for information why we have waited such a long time for the investment of this money. It is a pity in these times, when Trustee Stocks are rising so rapidly, that we should have lost the opportunity of buying in a cheaper market, and having the income from the stock all this time. Money lying on deposit brings in little or nothing.

The Treasurer: The question of investment was raised some little time ago and brought to the notice of the Chairman of the Finance Committee, but it was his considered opinion that it was better to wait and receive the assent of the Committee. The fact that it might have been invested earlier was not lost sight of, but as Treasurer I was acting under orders with regard to holding over.

The motion to receive and adopt the report was carried unanimously.

Examination Committee.

Professor Macqueen read the following report of the meeting of the Examination Committee, held on October 6th, and moved its reception and adoption, which was seconded by Dr. Bradley, and carried unanimously.

Professor J. Macqueen was appointed Chairman of this Committee for the ensuing year. Professor Macqueen then took the chair.

Professor J. B. Buxton was appointed Vice-Chairman.

The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

Reports on July Examinations.—The reports of the Chairmen of the Court of Examiners and of delegates and local Secretaries were submitted. It was resolved:—

> "That the Secretary be instructed to communicate with the members of the Court of Examiners
>
> (*a*) requesting that when an oral examination extends over more than one day, they should arrange to sum up at the end of each day;
>
> (*b*) drawing their attention to Byelaw 78;
>
> (*c*) directing the attention of the Examiners in Biology to the regulations regarding the length of the oral examination;
>
> (*d*) directing the attention of the examiners in Class D to the importance of proper supervision of the examination in Surgery."

Reports on Fellowship Examination.—The Secretary submitted the reports of the Examiners on two theses submitted for the Diploma of of Fellowship, as follows:—

> "No. 85. Thesis submitted by Mr. Allan Leslie entitled: 'Some results of two years' work on the Etiology and Prevention of Pregnancy Disease of Ewes in Canterbury, N.Z.'
>
> "The thesis is satisfactory as regards literary presentation and in other respects, and, together with the other contributions submitted by the candidate, is generally and specifically of such excellence as to justify the exemption of the candidate from any further test."
>
> Signed: W. Horner Andrews.
> F. T. Harvey.
>
> "No. 86. Thesis submitted by Mr. C. Machattie entitled: 'An Analysis of Oriental Sore from the Veterinary Viewpoint.'
>
> "The thesis is satisfactory as regards literary presentation and in other respects, and, together with the other contributions submitted by the candidate, is generally and specifically of such excellence as to justify the exemption of the candidate from any further test."
>
> Signed: C. M. Wenyon.
> T. J. Bosworth.

It was resolved:—"That the reports of the Examiners be approved and that the Diploma of Fellow be conferred on Mr. Allan Leslie and Mr. Charles Machattie."

Educational Certificates.—Educational certificates Nos. 3993-4, 3996-4014, 4016-7, 4032-4090 be accepted.

The Secretary submitted a number of School Certificates containing three or more credits, but which in strict accordance with the present bye-laws were not acceptable, though they provided evidence that the candidates were suitable in respect of general education to enter upon the veterinary course. It was resolved:—"That notice be given to provide that School Certificates showing three credits be accepted, and that in the meantime the Secretary be instructed to inform the candidates in question that they will be considered as eligible in respect of general education to enter upon the veterinary course."

Applications for Exemptions.—Applications were received from 17 candidates for exemption under the provisions of Bye-law 62 from the first year's course, and were granted in respect of the following candidates: Nos. 3995, 4015, 4018-4027, 4030, 4091.

Exemption under the provisions of Bye-law 62 was granted in the case of candidate No. 4028 on condition that prior to the Class B examination he passes a recognised examination in Physics.

Exemption under the provisions of Bye-law 62 was granted in the case of candidate No. 4029 on condition that prior to the Class B examination he passes a recognised examination in Biology.

An application was received from a member for (D.V.S.M.) exemption from the provisions of Bye-law 106 (3) on the grounds that he acts as part-time Inspector under a County Council. It was resolved not to accede to the application.

Higher School Certificates.—It was resolved: "That the Higher School Certificates and the Scottish Higher Leaving Certificates be recognised as qualifying for exemption under Bye-law 62, provided that they show that the candidates passed in the subjects of Chemistry (Organic and Inorganic) and Physics, Botany and Zoology."

Concessions.—Applications were received from R. Mitchell and J. F. Pollock for their examination fees, paid in July, to be held over to the December examination, satisfactory medical certificates being submitted in each case accounting for absence from the July examination. It was resolved to accede to the applications.

FitzWygram Prizes.—The auditors' report on the marks obtained by the candidates eligible for the FitzWygram Prizes, 1932, was submitted, showing that the first ten candidates in order of merit were as follows:—

1.	R. R. Pierse	6. F. P. E. Rickard
æq. 2.	W. B. Forrest	7. E. P. Rice
	E. G. White	8. N. H. Lambert
4.	S. Jamieson	9. D. T.Michael
5.	J. P. Pickering	10. T. McNabb.

It was resolved that the prizes be awarded as follows:—

1st Prize: R. R. Pierse, of the Dublin Veterinary College.

2nd Prize: W. B. Forrest, of the Edinburgh Veterinary College; equal.
E. G. White, of the London Veterinary College;

Walley Prize.—The auditors' report on the marks obtained by the candidates eligible for the Walley Prize was submitted, and it was resolved that the prize be awarded to:—

Miss M. Oyler, of the London Veterinary College.

Local Secretaries.—It was resolved to recommend: "That the following gentlemen be reappointed local Secretaries for examinations for the ensuing year, on the same terms as heretofore:—

Edinburgh: A. K. Cameron, B.Sc., M.R.C.V.S.
Glasgow: R. Renfrew, M.R.C.V.S.
Dublin: J. Doyle, M.R.C.V.S.
Liverpool: W. Nightingale, M.R.C.V.S."

Class "C." Examination; Report of the Special Sub-Committee.—No further action was taken in regard to this report.

Registration Committee.

The Secretary read the following report of the meeting of the Registration Committee of October 5th, the reception and adoption of which was moved by the President, seconded by Mr. Willett, and carried unanimously.

The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

Cases Against Non-Members.

N.44 — "Canine and Feline Specialist"; "Canine and Feline Surgery." The Solicitor reported that he had received no further evidence in this case, which was ordered to stand over until the next meeting.

N.54. — "Canine Specialist"; "Hospital"; "Veterinary Cases." The Solicitor was instructed to endeavour to secure an undertaking in this case.

N.62.—Use of titles. The Solicitor reported that he had not been able to obtain suitable evidence and the case was struck out.

N.67.—"Dog and Cat Dispensary"; "Canine Infirmary." The Solicitor reported that no further evidence had been received and the case was ordered to stand over.

N.68. — Using titles "Canine and Feline Specialist"; "Fully qualified vet." The Solicitor reported that a prosecution had been instituted in this case, but owing to defective evidence the case had been dismissed with costs.

It was resolved: "That in future cases of this kind steps be taken to obtain two independent witnesses and that in every case the defendant should be given an opportunity to submit an undertaking to discontinue the offence."

N.69. — Using titles "Canine and Feline Specialists"; "Animal Surgery." A satisfactory undertaking was submitted in this case.

N.70.—"Veterinary Surgeon." The Solicitor reported that no further evidence had been submitted and the case was ordered to be struck out.

N.71. — Using titles "M.S.C.B."; "Canine Specialist." This case was ordered to stand over for further evidence.

N. 72.—Using titles "Canine Practitioner and Specialist"; "Canine Infirmary." The Solicitor reported that he had not received sufficient evidence in this case and it was ordered to be struck out.

N.73.—"Canine Specialist." The Solicitor was instructed to issue a letter of warning in this case and to endeavour to obtain an undertaking.

Correspondence.—The Secretary submitted correspondence together with his replies, which were approved.

Veterinary Research Fellowships.—A letter dated July 25th, 1932, was received from the Assistant Secretary of the Agricultural Research Council stating that it had been decided to alter the title of the Veterinary Research Fellowships to Studentships for Research in Animal Health.

The Secretary read the following report of the meeting of the Registration Committee of October 6th, the reception and adoption of which was moved by the President, and seconded by Mr. Willett.

The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

Boarding Kennels and Hospitals.

The following report of the Sub-Committee appointed to consider the question of Boarding Kennels and Hospitals was received and adopted:—

The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

Advertising of Boarding Kennels.—The Secretary submitted a memorandum on the advertising of boarding kennels and hospitals owned by lay persons and advertised as "Under Veterinary Supervision."

It was resolved to recommend:—

(i) "That where boarding kennels and hospitals owned by lay persons are advertised as under veterinary supervision, no objection could be raised to their being so advertised provided they are supervised at regular and frequent intervals by veterinary surgeons, but that boarding kennels and hospitals at which the veterinary surgeon attends only when called in and at the option of the owner, ought not in the interests of the public to be advertised as under veterinary supervision. In such cases the member should be instructed to point out to the owner the importance in the public

interests of his being regularly engaged to give adequate professional supervision."

(ii) "That in the case of boarding kennels and hospitals conducted on premises owned or occupied or rented by veterinary surgeons or their agents, every complaint with regard to advertising or other breach of the bye-laws should be considered on its merits.'"

Cases Against Members.

2444 Jackson, J. C.—Advertising "Jaxon's Animal Shilling Remedies"; "Dr. J. C. Jackson, Dog and Cat Specialist."

The Secretary reported that no reply had been received from this member to the Secretary's request that he should submit an undertaking to discontinue advertising in contravention of Bye-law 53.

It was resolved to recommend: "That the name of J. C. Jackson be removed from the Register under the provisions of Section 6 of the Veterinary Surgeons' Act, 1881."

2466.—Advertising. A further complaint was received in this case and the Secretary was instructed to communicate with the member requiring him to give an undertaking that the offence complained of will be discontinued.

2490. — Tuberculin Test by Corporation Officials. Further correspondence in this matter was submitted and it was resolved:—

(*a*) "That a small Sub-Committee be appointed to inquire into the activities of Municipal Veterinary Officers in respect of tuberculin testing where such activities may be in conflict with the interests of general veterinary practitioners and to report."

(*b*) "That the Sub-Committee be constituted as follows:—The President, Lieut.-Colonel J. W. Brittlebank, Messrs. J. Holroyd, G. P. Male, Major D. S. Rabagliati, Captain R. Simpson and Mr. T. F. Spencer."

2495.—Alleged advertising and canvassing. An explanation was received from this member which was accepted.

2496.—Alleged supersession. It was resolved that there was no case.

2498.—Alleged advertising. A satisfactory explanation was received in this case.

2499.—A police report was received relating to the conviction of this member on a charge of being drunk in charge of a car with a fine of £5 and costs.

The Secretary was instructed to send a letter of warning to this member.

2500.—A police report was received with regard to a motor offence by this member, but no action was taken.

Correspondence.—(*a*) Letters were received from a member complaining of the action of two members, but in the absence of any specific charge the case was struck out.

(*b*) A letter was received from a member in regard to a veterinary surgeon licensed to attend dogs racing on licensed tracks being prohibited from giving treatment to dogs racing on unlicensed tracks. It was decided to refer this matter to the National Veterinary Medical Association.

(*c*) Other correspondence was submitted and the replies of the Secretary were approved.

Resignation.—An application was received from Major A. Duff Dunbar for his name to be removed from the Register, he having retired from practice. It was resolved to accede to the application.

Restoration.—An application, accompanied by the required statutory declaration, was received from Mr. J. C. Doran for his name to be restored to the Register, it having been removed by the Registrar under Section 5, Sub-Section 4, of the Veterinary Surgeons' Act, 1881. It was resolved to accede to the application.

Free Treatment Scheme, Liverpool. — The Secretary submitted a letter received from the Secretary of the Lancashire Division of the National Veterinary Medical Association in regard to the proposed scheme for free veterinary treatment for sick animals of the poor in Liverpool. It was decided to send to the complainants in this matter a copy of the letter for their observations.

National Veterinary Medical Association.—A report submitted by the Council of the N.V.M.A. on the subject of advertising was received and considered.

It was resolved: "That the thanks of the Council be conveyed to the Council of the National Veterinary Medical Association for their report, together with a request that further proposals in regard to the matter should be submitted for the consideration of the Council."

Advertising by Boards.—On the proposition of Mr. T. F. Spencer, seconded by Mr. R. Hughes, it was resolved:—

(*a*) "That a Sub-Committee be appointed to consider the question of advertising on the part of members by means of large sign-boards on their premises."

(*b*) "That the Sub-Committee be constituted as follows:—Captain J. C. Coleman, Mr. A. A. Donnelly, Major H. Kirk, Messrs. G. H. Locke, G. P. Male, Captain T. M. Mitchell, Messrs. W. Nairn, T. F. Spencer, and J. Willett."

Mr. Willett moved the adoption of the Committee's recommendation, that the Registrar be instructed to remove from the *Register* the name of J. C. Jackson. The Treasurer seconded, and this was carried unanimously.

Professor Craig moved that, having regard to the declaration made by Mr. J. C. Doran, his name be restored to the *Register*. Colonel Walker seconded, and this also was carried unanimously.

On the proposition of Dr. Sheather, the Council went into committee to consider certain matters arising out of the report.

On resumption, the reception and adoption of the report was carried unanimously.

Parliamentary Committee.

In the absence of Colonel Brittlebank, the Chairman of the Committee, Mr. Willett read the following report of a meeting of the Parliamentary Committee held on October 5th, and moved its reception and adoption, which was seconded by Colonel Walker, and carried unanimously.

Lieut.-Colonel J. W. Brittlebank was reappointed Chairman for the ensuing year.

Mr. J. Willett was appointed Vice-Chairman and, in the absence of Colonel Brittlebank, took the chair.

The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

Improvement of Livestock (Licensing of Bulls) Act, 1931.—Further correspondence was submitted in this matter, and it was resolved that no action be taken,

Uganda Veterinary Services.—The Secretary read a letter received from the Secretary of State for the Colonies, acknowledging the recipt of his communication with regard to the Uganda Veterinary Services, stating that the most careful consideration would be given at the Colonial Office to every aspect of the question involved before any decision is taken.

Library and Publication Committee.

Mr. Livesey read the following report of a meeting of the Library and Publication Committee held on October 7th, and moved its reception and adoption, which was seconded by Mr. Nairn.

Mr. G. H. Livesey was re-appointed Chairman of this Committee for the ensuing year. Mr. Livesey thereupon took the chair.

Dr. A. Leslie Sheather was re-appointed Vice-Chairman.

The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

Librarian's Report.—The Librarian reported that during the quarter 152 volumes had been sent out on loan, of which 61 were books and reports, and 91 periodicals. Among the institutions making use of the Library were the National Central Library, the London School of Hygiene, the Medical Research Council, and the Imperial Bureau of Animal Health. The number of visitors to the Library during the quarter was 58. The Library has been thoroughly cleaned, and all the books taken down and dusted. Pamphlets and reprints are being re-arranged and re-indexed, and the following dictionaries have been purchased: Norwegian, Swedish, Danish, Italian, French, Spanish.

Presentations.—The Librarian reported the receipt of the following presentations:—

Mr. J. F. D. Tutt: "Microbiology" (Lutman); "Recent Advances in Microscopy"; "Biological Applications" (Piney); "Handbook of Bacteriology" (Bigger); "Calcium Metabolism and Calcium Therapy" (Cantarow); "The Science and Practice of Surgery" (2 vols.) (Romanis); "Special Cytology" (2 vols.) (Cowdry).

Professor S. H. Gaiger: "Veterinary Pathology and Bacteriology" (Gaiger & Davies).

Major G. W. Dunkin: "Antony van Leeuwenhoek and his Little Animals" (Dobell).

Professor F. T. G. Hobday (on behalf of Mr. G. A. Tomlin): "Lectures on the Elements of Farriery," 1793 (Sainbel).

Mr. E. R. Edwards: 32 volumes of Veterinary Textbooks.

There have also been received a number of annual reports, collected papers, pamphlets, reprints and journals, including a large number of foreign journals sent by Professor Hobday.

The report was approved, and it was agreed that the thanks of the Council be especially addressed to Mr. Tutt, Professor Gaiger, Major Dunkin, Professor Hobday, Mr. G. A. Tomlin, and Mr. E. R. Edwards, for their very generous donations to the Library.

The Librarian was instructed to subscribe to the *Zoophilist*, the *Anti-vivisection Journal* and the Research Defence Society.

The Librarian reported that a number of journals and textbooks had been bound during the quarter.

Register, 1933; Report of Sub-Committee

The following report of the Special Sub-Committee was received and adopted:—

The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

Register, 1933.—The Secretary reported that, as instructed, he had submitted to all members of Council the suggestions and recommendations of the Sub-Committee for the revision of the Register, and that replies from ten members of Council had been received. After due consideration of these replies it was resolved to recommend:—

(i) That the Acts and Charters be published in a separate volume, sufficient being printed to last many years.
(ii) That the Calendar should be replaced by a single page giving a list of important dates for the year.
(iii) That the Standing Orders be omitted.
(iv) That the lists of Fellows and Diplomates in Veterinary State Medicine be inserted after the list of Honorary Associates.
(v) That the page headed "Register No. 2" be omitted.
(vi) That Appendix 3 be limited to officers serving in the Regular Army on the active list.
(vii) That Appendix 8 (Veterinary Associations) be omitted.

That the following additions be made:—

(*a*) List of important dates for the year.
(*b*) Brief summary of important events in the history of the College.
(*c*) The Annual Report.
(*d*) The addresses of Superintending and Divisional Inspectors of the Ministry of Agriculture.

Form of Register.—That the size of the page be increased slightly in breadth so as to provide for a final column in which to insert all academic qualifications other than membership of the College, the name of the School at which the members have been trained to be indicated in italics.

Re-arrangement of Contents.—That the order of contents of the Register as printed in the report already circulated to Council be approved.

It is estimated that a saving of at least £20 a year will be effected by these changes.

It was resolved:—

(*a*) "That the Special Committee be authorised to obtain competitive estimates for the printing of the two volumes, with power to accept the lowest or other tender in their discretion and to put the work in hand."

(*b*) "That in the first year of publication both the volume containing the Charters and the Acts, and that containing the Register, be issued to members on payment of the Annual Fee, but that in subsequent years the Register only be sent."

(*c*) "That a copy of the Acts and Charters be given to each new member on admission."

Mr. Locke: In the report of the Sub-committee which has been circulated I notice two items, one that the Calendar should be replaced by a single page giving a list of important dates for the year, and another, that an addition be made consisting of a list of important dates for the year. I take it those relate to the same thing.

I would suggest that a list of whole-time service men in connection with universities and recognised research societies or institutions should be added. One has a certain pleasure in showing the *Register* to a prospective candidate for the profession, and indicating the important posts which men on the *Register* hold.

Again, with regard to the Annual Report, do I take it that the Annual Report will not be sent to each member individually as is done now, and only put in the *Register*?

Mr. Livesey: For Mr. Locke's information I may say that the question with regard to research officers at universities and other institutions was considered very fully by the Subcommittee at several of its sittings, and it was considered inadvisable to put in such a list. There is a limit to what can be inserted, and if one thing is admitted there is no reason why another should be excluded.

With regard to the Annual Report, this does not interfere in any way with that being sent out in the ordinary course for the Annual General Meeting. It is merely to be added here for the purpose of record. If the Annual Report does not go into the *Register* it does not appear in any permanent document connected with the College.

Professor Macqueen: I notice that it is proposed that the Calendar should be replaced by a single page giving a list of important dates for the year. I should like to know what is the difference between important dates for the year and a calendar.

The President: The new arrangement will save a large number of pages because the dates at the present moment are spread out. We propose to publish them all on one page.

The motion to receive and adopt the report was carried unanimously.

APPOINTMENT OF LOCAL SECRETARIES

The President: You will remember that in the report of the Examination Committee recommendations were made to the Council in connection with the appointment of Local Secretaries. I think before we pursue the discussion on this item of the agenda I will move that we go into committee to consider a question which has arisen in connection with the Local Secretaryship in Dublin.

Mr. Livesey seconded the motion that the Council go into committee, and this was carried.

The Council went into committee.

On resumption,

The President said: I will now move the appointment of Local Secretaries as follows: Edinburgh, Mr. A. K. Cameron; in Glasgow, Mr. R. Renfrew; in Liverpool, Mr. W. Nightingale, and the appointment for Dublin to be left in my hands as President.

Mr. Donnelly seconded the motion, which was carried unanimously.

NOTICES OF MOTION

The Secretary read the following two Notices of Motion, to be suspended in the usual way:—

(*a*) To amend Schedule I (*c*), (paragraph commencing "Certificates granted on the results of the above School Certificate Examinations"), by the omission of the word "four" in line 4, and the insertion of the word "three," and the omission of all words after "subjects' in lines 4 and 5.

(*b*) Add to Bye-law 62 (i), the following:—

"The Higher School Certificates, and the Scottish Higher Leaving Certificates, are recognised as qualifying for exemption under this Bye-law, provided they show that the candidate has passed in Chemistry (Organic and Inorganic) and Physics, Botany and Zoology."

OTHER BUSINESS

Captain Coleman: I should like to ask a question concerning the syllabus of examinations and instructions to examiners. It is not clearly stated here where instruction on the intradermal test comes in, or when an examination on this subject is to be taken. In the fourth year methods of clinical pathology are taken, and there is an examination in that subject, and I take it that it would come in there. But would it not be better if it was specifically named? Considerable controversy is going on at the present moment in regard to this subject. We may take the example of the medical profession. This being an important subject, we might very well adopt the same measures as are adopted in that profession, whereby, before the diploma for practice can be obtained, a certificate has to be produced showing efficiency in the application of the vaccination test. If that is considered necessary in the human subject, it is equally necessary to have a corresponding certificate for veterinary practice, that the candidate is efficient in intradermal testing. I have never seen any allusion made to this, but it is a most important matter, and some specific notice should be taken, so that efficiency in respect to that particular test is assured.

The President: I think it would be in order to refer this question to the Examination Committee. We cannot discuss it here and now.

Captain Coleman: Very well, sir.

This concluded the business.

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Special Meeting of Council

A Special Meeting of Council, for the purpose of considering and, if thought fit, approving certain alterations of the Bye-laws, was held at the College, Red Lion Square, W.C.1., on Friday, October 7th, 1932, immediately after the close of the Quarterly Meeting. Professor J. B. Buxton, President, occupied the chair, the same members being present as at the Quarterly Meeting.

The minutes of the previous meeting were taken as read and were signed by the President.

BYE-LAWS

The PRESIDENT: I beg to move:—

"That Bye-law 31 be altered in the following way: that the word 'fifteen' in line 6 be deleted, and the word 'seventeen' substituted therefor."

I do not think it is necessary for me to elaborate that at all.

Colonel WALKER seconded, and the motion was agreed to.

Mr. LIVESEY: I beg to move that to Bye-law 31 be added the following:—

"Chairmen of Standing Committees, if not already elected to be members of the Finance Committee, shall be entitled *ex officio* to serve on that Committee but not to vote."

I have spoken on this matter before, and it is not necessary to add anything now.

Mr. WILLETT seconded.

The PRESIDENT: This would involve their being called officially to the meetings of the Committee.

Professor SHARE-JONES: They would be there. I take it, on matters applying to the whole Committee in order to give advice.

Mr. WILLETT: I think it advisable that the Chairmen of the Standing Committees should attend the meeting of the Finance Committee. It might frequently be an advantage to get their views.

Sir J. M'FADYEAN: I am in the same position as Mr. Willett.

The motion was agreed to.

Dr. WHITEHOUSE: I beg to move:—

"To insert in Schedule 1 'Higher Leaving Certificate Examination of the Scottish Education Department' after 'The Higher Certificate Examination of the Central Welsh Board.'"

It moves it up to the highest group of certificates in secondary education. It is the highest one in Scotland, and we think this very desirable.

Colonel WALKER seconded, and the motion was agreed to.

The PRESIDENT: I beg to move the following:—

"*Five Years' Curriculum.* To adopt as Bye-laws the syllabus as amended relating to the 2nd, 3rd, 4th and 5th examinations."

The copy of this was sent with the agenda for this Special Meeting.

The TREASURER having seconded, the motion was agreed to.

Dr. SHARE-JONES: I beg to move to amend paragraphs (*b*) and (*d*) of Bye-law 95, so that they will read as follows:—

"(*b*) 'An approved Veterinary Diploma' shall be interpreted to mean such Veterinary Diploma as the Examination Committee, after due consideration, shall approve for the purpose of this Bye-law."

I think the term "diploma" would be interpreted in its widest sense to include a document relating to a Degree also.

"(*d*) The subjects of the prescribed final examination shall be such subject or subjects, in addition to Medicine and Meat Inspection, Surgery and Obstetrics, as the Examination Committee shall prescribe after consideration of evidence submitted by the applicant regarding the nature and extent of the curriculum and examinations for the Diploma he holds."

The important difference between the proposed Bye-law and the existing Bye-law is that the Committee will be entitled under the Bye-law to review, and, indeed, will be required to review, every individual case presented to it; and, further, it will be empowered to grant exemption in any subject in addition to Medicine, Surgery and Obstetrics as enumerated here, in which it finds that the candidate is entitled, in virtue of the work that he or she has already done, to such exemption. Another important difference is this, that the old Bye-law tied the hands of the Committee in regard to the subjects. The Committee were bound to examine in a large number of subjects without reviewing the subjects in detail, and were bound to refuse exemption in at least one subject, even though the Committee might find that that subject was the one in which the candidate was most entitled to secure exemption. As the proposed amendment stands, the Committee will review every case, and the whole history of the case from beginning to end.

Professor CRAIG: I second the motion. I am more convinced than before of the necessity of the amendment of this Bye-law in view of some incidents of late.

Professor GAIGER: It is perhaps a fortunate provision of the Act that we cannot amend a motion that is brought forward; but in some ways it is unfortunate that we cannot do so, because while we may agree in part with the motion, we have no power to amend it in respect to the parts of which we do not approve. There are only three courses open to us in regard to a motion such as this; it must be passed or rejected, or it may be withdrawn; it cannot be amended.

In the first paragraph I notice three words appear which I have not seen in any other Bye-law of the College. The Bye-law I looked at specially was 62, and I do not find that under Bye-law 62 we are compelled to do anything only "after due consideration." I rather object to the words appearing in this Bye-law 95, because it implies that where they do not appear, as in Bye-law 62, we may do things without

due consideration. We cannot get away from that implication.

The main objection I have, however, falls in paragraph (*d*), where it says, "The subjects of the prescribed final examination shall be such subject or subjects . . . as the Examination Committee shall prescribe." Dr. Share-Jones, in his speech on this motion, says that this will necessitate the Examination Committee reviewing the whole of every individual case which is brought before us. I think that will be a most unfortunate thing if it comes to pass. How in the world are we to review the whole of the particulars with regard to an Indian candidate, for example, or any other candidate who comes before us? How are we to get those particulars? We have not been told anything about that. There are some of us who think we spend quite sufficient hours over details as it is, and the number of extra hours we are going to spend I shudder to contemplate. If we are going to have the whole of the candidate's curriculum and what he did in his examinations brought before us, the number of extra hours will certainly be very large.

One tries to foresee a case of the kind that might come along. Supposing that we are dealing with only one of these candidates. We have it fixed that he must pass in Medicine and he must pass in Surgery. We then have to review the whole of the rest of the curriculum to decide as to the other subject or subjects, and we have to determine whether he shall take one or more than one, and which of them the student shall be examined in. To get at that we are going to endeavour to examine the curriculum that the student has been through. I maintain that that is not the way to get at the capacity of the student to sit at the Final Examination or to become a member of this College.

Most teachers will agree that there is a profound difference between what is put in the curriculum or taught to the student and what the student knows, and our object is to ascertain what the student knows before he becomes a member of this College. We can only get at what the student knows by examination. Our only safe plan is to specify, as we do at the present time, the subjects in which a student must be examined. This, of course, must not be confused with the subjects he is going to take at the school he attends; that is quite another matter. I understand that under the present Bye-law the student can take botany and zoology if he likes, but he is going to be examined in the subjects laid down.

I feel it is a pity that this matter has been brought up in this way. It is legally correct, of course, but it would have been wiser if Dr. Share-Jones had brought it up in the Examination Committee, where there would have been more time for discussing all the details regarding it. This is not only a question of Bye-law 95; it really embraces Bye-law 62, because we have now begun a five-years' course, and hardly any case can be found which will come before us and will not involve one or other or both of these Bye-laws. We have had instances of Indian students going to Canada and getting a degree there, and then coming to us and claiming exemption from all their examinations. In other words, they have shifted their ground from Bye-law 62 to Bye-law 95. This cannot stand alone; it is a wide question, and wants settling before very long, because there are cases coming forward of the nature I have described. I am going to ask Dr. Share-Jones to withdraw this motion on the understanding that it will be brought up in its wider sense before the Examination Committee. If he is unwilling to do so, I for one am going to vote against it for the reasons stated.

Sir J. M'Fadyean: Should I be in order in moving that the subject be referred to the Examination Committee?

Professor Wooldridge: I do not follow Mr. Gaiger's line of argument. He has visualised an instance of an Indian student, for example, shifting his ground from Bye-law 62 to Bye-law 95. As the Bye-law stands at present, we have no control whatever in specifying any other subject that a candidate for this diploma shall be examined in; but as amended, such a candidate can be compelled to take up such subjects as he had thought to escape by shifting his ground from Bye-law 62 to Bye-law 95. It is an additional safeguard, inasmuch as if the new Bye-law comes into effect candidates may be compelled to take one or more subjects in addition to Medicine and Surgery. At the present time they can be compelled to take Pathology alone in connection with Medicine and Surgery. We shall have greater control with the Bye-law so amended.

Professor Gaiger: It is no proposal of mine that the present Bye-law be left as it stands. It wants altering, but I do not think this is the way to alter it.

Dr. Whitehouse: I am in favour of the amendment of the Bye-law. The idea that it is an additional safeguard is the principal idea at the back of this proposal. It is the best thing we can do. We can get it done to-day, and thus close a back door. If it does not suit we can repeal it.

Dr. Share-Jones: May I review the circumstances which led to my bringing this forward? The matter arose very simply, when we found ourselves up against a case in which every man of us would have granted exemption in a certain subject, in which the candidate was manifestly entitled to exemption, but in which we could not exempt him, owing to the phraseo-

logy of this Bye-law. There is only one reason for granting exemption, and that is that the candidate should have pursued a satisfactory course of instruction in the subject and passed a satisfactory examination in it elsewhere.

The Council voted:—

In favour of Dr. Share-Jones' motion 11
Against 7

The President declared the motion carried.

DATE OF CONFIRMATORY MEETING

Mr. Willett proposed that the Confirmatory Meeting be held on Thursday, October 20th.

There being no other proposition, this was agreed to.

This concluded the business.

Horse Society Meetings

NATIONAL HORSE ASSOCIATION

Major-General Sir John Moore presided at a well-attended Council meeting of the National Horse Association on Friday, October 21st, and commenced the proceedings by presenting a Merit Certificate to Mr. Edgar K. Evans for bravery worthy of the Association's recognition. Mr. Evans had endeavoured to stop a runaway horse and van belonging to Messrs. Carter Paterson and Co. which bolted in St. Paul's Churchyard on April 1st. Mr. Evans in so doing met with a very severe injury involving a broken leg and shoulder, and other injuries and has only recently come out of hospital.

Horse Owners' Reference Book.—Consequent upon the success attendant upon the first issue this year, it was decided again to issue a Reference Book in 1933. The statistics relating to the various breeds of horses, railway rates, record prices, etc., would again be included, and as many dates as possible of fixtures in 1933 in which horses will take part.

Railway Fares for Grooms going to Sales.—It was reported that (as announced in last week's *Record*) as a result of negotiations with the Railway Clearing House, the Railway Companies had agreed that the existing special fares to drovers accompanying livestock to auction sales shall also be extended to cover grooms in charge of horses and ponies.

Richmond Park Regulations.—The Council were informed that the First Commissioner of Works had received (on June 21st) a deputation representing those interested in horse riding in Richmond and Bushy Parks. Later, on October 12th, Mr. Nigel C. Colman, M.P., Major-General Sir John Moore and the Secretary met Sir Louis Greig and the Parks Bailiff, when the proposed regulations were very fully discussed, and an assurance given that the control of riding will not be used more than is absolutely necessary for the preservation of the turf. The Secretary reported that he had received the following letter:—

"With reference to your enquiry as to what concessions have been granted as a result of the meeting which you attended regarding restrictions on riding in Richmond and Bushy Parks, the First Commissioner has given the fullest possible consideration to the representations made by you on behalf of the riders, and you have been assured that the new powers which have been taken will be exercised only so far as is absolutely essential for the preservation of the Park. Although he has power to close the Park to riders at any time it is not proposed for the time being to close it at all during the months May to October inclusive, and even on those days when it is necessary to close the Park during the winter months it is intended as an experiment to allow riding up to 10 a.m.

"The matter is very much in the hands of the riders themselves. If they will co-operate with us by avoiding the worn tracks and exercising special care when the ground is soft, it will not be necessary to close the Park as frequently as will be the case if these precautions are disregarded."

Medal Awards.—During the 1932 show season the Association had awarded 38 Silver Medals for the best child's pony to be ridden by a child under 14 years of age, while 10 Silver Medals had been awarded at shoeing competitions for the best-fitted shoe.

Royal Commission on Lotteries.—A memorandum had been drawn up and submitted to the Royal Commission urging the desirability that some adequate proportion of any proceeds which may be obtained from betting or sweepstakes on horse racing should be allocated to the encouragement of horse breeding.

Foreign Encouragement of Horse Breeding.—In preparing this memo. a considerable amount of information had been obtained from various foreign Governments as regards State encouragement of horse breeding, and it was decided to print these details as being of general interest to those interested in horse breeding.

Survival of the Horse.—Sir John Moore called attention to the chapter in Captain B. Acworth's book "Back to the Coal Standard" in which the author draws attention to the remarkable economy of the horse-drawn vehicle, quoting statistical figures, and to the fact that every 300,000 horses supplanted by mechanical road vehicles displaces agricultural products to the value of £12,000,000. (*Vide* p. 1326.—Ed. *V.R.*)

Central Veterinary Society.—The Chairman stated that he felt sure the Council would be glad to learn that he had received a letter from the Fellows of the Central Veterinary Society thanking the Association for its efforts on all matters affecting the horse and expressing their appreciation of the work which is being done.

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SHIRE HORSE SOCIETY

At the first meeting of the Council of the Shire Horse Society after the summer recess it was agreed to put up the same generous prize list as this year, although several minor amendments were made in the form of allocation. Thus the two-year-old gelding class will be eliminated and the prizes hitherto allotted to that class will be added to the remaining three gelding classes. Accordingly a sum of £1,800 will again be distributed amongst exhibitors and breeders of Shires in connection with the fifty-fourth London Show, to be held at the Royal Agricultural Hall on February 21st, 22nd, and 23rd next.

Major-General Sir John Moore would be asked again to judge in the Appointments section, while Mr. T. Eaton Jones would officiate as Senior Veterinary Officer. It was agreed to follow the 1932 programme, except that on the Thursday the Parade would commence at 10 a.m., and the Auction Sale at 11.

Sir Walter Gilbey, Bart. (Chairman of the Horse Show Committee) reported that during the past show season the offer of gold, silver and bronze medals and breeders' prizes had been open to all affiliated societies, and returns so far to hand

indicated that these offers were keenly appreciated throughout the country. To date no less than 282 medals had been issued, more than half of which were accompanied by cash prizes to breeders. In addition, over £100 was given in cash prizes at the Royal Show at Southampton, so that approximately £1,000 was expended during the year on this side of the Society's activities.

These offers were renewed in their entirety in respect of the 1933 season although it was appreciated that the enhanced price of gold would probably necessitate some adjustment in the case of gold medals. There would, however, be no curtailment of the sum available for these special prizes.

The Chairman of the Editing Committee (Mr. A. H. Clark) reported that over one thousand entries had so far been received for Volume 54 of the Shire Horse Stud Book. This volume was already in the printers' hands and numbers would be allotted during November, after which time no further animals could be accepted for registration. A number of entries had had to be rejected during the year on account of their non-eligibility under the existing regulations, and in this connection it was resolved: "That the present conditions governing the registration of mares (foaled after 1921) in the Stud Book be amended so that three crosses of registered blood (sire, dam's sire, and g. dam's sire) qualify a mare or filly for registration."

Sir Walter Gilbey, Bart., as Chairman of the Finance Committee, submitted an approximate statement of receipts and liabilities showing the estimated cost of the year's working to be £700 as against £610 last year and £1,212 in 1930.

Forty-six new members were elected.

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HUNTER ACTIVITIES

Major Gordon B. Foster presided at a meeting of the Council of the Hunters' Improvement Society on October 7, and proposed the election of thirty-one candidates for membership. Major H. Denison-Pender referred to the Stud Book, and said that, despite the difficult times, 1,052 stallions, mares, and geldings had been entered for the coming volume.

Captain T. L. Wickham-Boynton reported that during the past season the Society had awarded 33 and 135 silver medals for brood mares, fillies, and ridden horses. In addition, 36 produce premiums had been awarded for groups of three young Hunters by the same sire. The total cost to the Society was £300.

The president reported that the Minister had been asked to receive a small deputation, and everything possible was being done to ensure a continuation of the Government grant for premium stallions.

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THE HACKNEY HORSE

Meetings of the Council and Committees of the Hackney Horse Society were held in London, when Mr. H. Hinrichsen presided and four members were elected. The publication of the new volume of the Stud Book was considered, and it was unanimously resolved to obtain entries for the publication of a supplementary volume to be issued as soon as the necessary arrangements are made.

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HORSE BREEDING THE ONE BRIGHT SPOT

"Horse breeding appears to be the only branch of farming that is not under a cloud at present," says the *Scottish Farmer*. "While the prices of all other classes of livestock have been going steadily downwards, and in many cases have reached a level that is altogether unremunerative to the breeders, the trade for draught horses has shown a welcome upward tendency. Last year's autumn sales justified the belief that the corner had been turned, and at the sales this autumn every class of Clydesdale from foals to matured mares and geldings has shared in the improved trade. The scarcity of draught horses is making farmers turn their attention once more to horse breeding; and a feature of the autumn sales has been the keen demand for mares and fillies. These have made even greater increases in price than have the geldings. If the Government should succeed in carrying through a policy that will bring prosperity to arable farming, there will be an even greater demand for work horses than there is at present. At the same time cases have been recorded in which firms that have to make extensive use of road transport have returned to the horse as they have found that the horse provides a cheaper source of power than the motor. Instances of this kind have been recorded both in Britain and overseas, and the National Horse Association has done valuable propaganda work on behalf of the horse by circulating leaflets giving detailed statements of the comparative costs of horse and motor haulage, and showing how favourably the former compares with the latter. The motor has not yet driven the horse off the road, and the machine is a very much longer way from driving the horse off the farm."

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The Survival of the Horse

Some interesting comments on the survival of the horse for transport are made by Captain Bernard Acworth in "Back to the Coal Standard," published by Eyre & Spottiswoode. The author states that he has spent his life in the control of machinery, but is in a position to form a sound conclusion from facts provided by experts in horse and mechanical transport, and as a result has endeavoured to demonstrate that the horse should recover a considerable portion of its old eminence in an economic system of modern transport.

Captain Acworth writes: "The horse retains for many purposes priority of place in economic transportation. Where motor lorries are in use for doing work similar to that performed by horse-drawn vehicles, there must be an increase in overhead costs; these costs must be met by someone, and are thus inevitably the source of an increase of the cost of living, where they are not a source of impoverishment to the purveyor of the goods transported. The fact that the road system is disadvantageous for horse traction merely accentuates the advantages of the horse, which persists in maintaining itself in spite of the disabilities to which roads designed exclusively for motor transport subject it."

The remarkable economy of the horse-drawn vehicles is illustrated by a large London store which has computed its daily costings for 313 working days per year, and eight hours per day at 19s. 6½d. for a single light horse van, £1 8s. 10d. for a 25 cwt. motor-van, £1 5s. 4½d. for a pair-horse van, and £1 19s. 8d. for a 5-ton. lorry.

"A more striking factor in the relative costs is the initial outlay and life. The average cost of a heavy draught commercial horse and wagon is approximately £160, while the active life is approximately eight years, the life of a wagon if kept in condition, 20 years. The cost of a 20-cwt. motor lorry was, until recently, £160 to £400, its life was from five to six years. The cost of a 4-ton motor lorry was approximately £800, its average life being six to seven years. It thus transpires that for the same capital as is required

for a heavy motor lorry, five or even six first-class horse vans can be put on the road. Each van can cover a different area, while the total depreciation on the lot will not exceed £60 per annum.

"It may be news to many that a single horse can tow a load of 80 tons in a barge a distance of twenty miles a day."

In commenting upon the horse and agriculture Captain Acworth states: "The extent of the injury inflicted upon agriculture can be appreciated when it is realised that every 300,000 horses supplanted by mechanical road vehicles displace agricultural products valued at £12,000,000. There is another severe loss to agriculture of which no mention has been seen elsewhere. Under the net costings of horse labour for a year, amounting to £39 6s. 6d., we find on the credit side of his keep a sum of £3 6s. for manure. On this basis it will be seen that 300,000 horses produce annually manure approximately at £1,000,000, to take the place of which enormous sums have been expended on the production of more costly and less satisfactory synthetic substitutes."

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

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DIARY OF EVENTS

Oct. 31st.—Meeting of the Editorial Committee, N.V.M.A., at 2, Verulam Buildings, Gray's Inn, W.C.1, at 4 p.m.

Nov. 1st.—All changes of address for insertion in the 1933 Register to be reported to the Registrar, R.C.V.S.

Nov. 3rd.—Annual Dinner-Dance of the Central Veterinary Society, Mayfair Hotel, Berkeley Street, W.

Nov. 4th.—R.A.V.C. Old Comrades Association Twelfth Annual Re-Union Dinner, Anderton's Hotel, Fleet Street, E.C.4.

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R.C.V.S. OBITUARY

Yates, John Henry, o.b.e., m.r.c.v.s., Captain late R.A.V.C., 4, Norfolk Street, Sheffield. Graduated N. Edinburgh, December 21st, 1894; died October 24th, 1932.

"Many Sheffield people will learn with regret of the death in Sheffield Royal Infirmary of Mr. J. H. Yates, one of the best known veterinary surgeons in the city," says a local paper. "Mr. Yates, who lived at 38, Rutland Park, and carried on business at 4, Norfolk Street, had been ill only a week. He leaves a widow.

"Before the war Mr. Yates had premises at Lady's Bridge. In 1914 he joined the Services as a veterinary surgeon with the rank of lieutenant, and later was promoted captain. His work in this direction was highly appreciated, and on three occasions he was mentioned in dispatches, and was appointed an officer of the Military Division of the Order of the British Empire. He began work as a veterinary surgeon at Edinburgh in 1894.

"He took a deep interest in the Norton Show and Norton Ploughing Association, and was prominently associated with the Catholic movements of the city for some time, being president of the Society of St. Vincent de Paul."

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The late Captain C. E. McCrea, m.r.c.v.s.

In reference to the late Captain C. E. McCrea, m.r.c.v.s., of Clacton-on-Sea, whose death was recorded in our last issue, the *Belfast Telegraph* says:—

"Deceased was a member of a well-known and highly-esteemed Newry family, being a son of the late Mr. John McCrea and a nephew of the late Professor R. J. Anderson, m.a., m.d., m.r.c.s.e., Beechhill, Newry, and of the late Dr. Robt. Anderson, Newry.

"Captain McCrea was educated at Newry Intermediate School and at the Veterinary Colleges in Dublin and Edinburgh. He became a member of the North Irish Horse, joining the colours at the outbreak of war in 1914 when a senior veterinary student, and served with distinction in the Army Veterinary Corps in France. He qualified as a veterinary surgeon during the war. He was badly gassed at the front and the illness to which he succumbed was a sequel to that.

He is survived by his wife, a member of a well-known Dundalk family (the Tempests), and a young son, also by two brothers, Dr. Anderson McCrea, coroner and medical officer of health at Chesterfield, and Mr. Harcourt McCrea, m.r.c.v.s., Londonderry, and three sisters.

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WESTMINSTER COUNCIL'S STUD TO BE RETAINED

At a meeting of the Council of the City of Westminster held on October 13th, consideration was given to a recommendation of the Highways Committee that approval should be given to the principle of replacement of the horse stud by motors. The recommendation was not accepted, largely, it is believed, through the instrumentality of the National Horse Association's comparative costings, which had impressed many of the Councillors present. Councillor F. R. Ridley moved that the report be referred back, saying that he had expert opinion that horses were cheaper than motors for short journeys, and by the casting vote of the Mayor, the motion was carried.

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THE BLEDISLOE TROPHY

The Bledisloe Trophy, which is awarded at the Dairy Show (held last week) to the breed society adjudged to have the best exhibit of good all-round dairy cows, was won by a team of Ayrshire cows, with a British Friesian team as reserve. Seven teams competed. The result was interesting in view of the run of successes achieved by the British Friesian breed, which gained the trophy in three consecutive years from 1929, and also in 1926. The Friesians, in fact, proved the best in milking performance, but dropped points on inspection.

The Ayrshire team had been well selected, and the exhibitors came to Islington full of optimism, and won the trophy with a total of 1,547·03 points, of which 1,057·03 were awarded in the milking trials, and 490 on inspection. The Friesians scored a total of 1,500·40 points—1,060·40 for milking and 440 on inspection. The six cows in the team have recorded an average of 1,532 gallons in their last lactation period.

A team of Dairy Shorthorns was placed third. The cows were remarkably good, and had they done as well in the milking trials as they did on inspection they would have beaten the others. The judges gave them 500 points on inspection, or 10 points more than the winning team. In

the milking trials, however, they received only 955·53 points. The weakness was attributed to the absence of a cow from North Wales, which had been selected to compete but was prevented from being shown owing to an outbreak of foot-and-mouth disease.

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ARMY VETERINARY SERVICE

London Gazette—War Office—Regular Army

Oct. 21st.—E. P. Rice to be Lt. (on probn.) (Oct. 22nd).

Correspondence

Letters to the Editor should reach the Office **not** later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

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FOOT-AND-MOUTH DISEASE PROPHYLAXIS

To the Editor of the Veterinary Record.

Sir,—Dr. Auld, in this week's *Medical Journal* (October 15th) refers to Kolle's statement of 1924, that rabbits which have been injected with metallic bismuth are protected against experimental infection with spirochætes. Less than one part per hundred thousand suffices.

This should be of interest to stockbreeders. The cause of foot-and-mouth disease is still obscure, but generally the ultramicroscopic viruses are thought to be akin to the protozoa. It might be worth trying on a big scale the effect of prophylactic injections of bismuth in the prevention of foot-and-mouth disease. In this case all the cattle of a county would be earmarked B.I., bismuth injected, or N.B.I., non bismuth injected. The cost per head would be small. The depôt of bismuth would need to be kept up by injections each month or so. Bismuth in these proportions is harmless to the human subject.

The cost of this experiment would not be much more than the destruction of an average herd costs at present. Further, the experiment would not in any way interfere with the present regulations.

Yours faithfully,

W. L. English, M.B., F.Z.S.

Oakfield Zoological Gardens,
Shavington, near Crewe.
October 21st, 1932.

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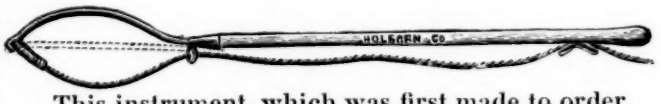
A DOG-CATCHER

To the Editor of the Veterinary Record.

Sir,—I should like to bring before the members of the profession interested in canine practice the following useful instrument which, although perhaps mention has been made of it, has not, to my knowledge, been actually produced and catalogued by any firm up to date.

It is a dog-catcher which, as will be seen by the accompanying illustration, consists of a galvanised steel bow with an eye at each end and fixed to an ash pole. A cotton rope is knotted at one end, passes through the eyes and hangs in a loop. The idea is to catch the evasive animal's head in the loop, which is then drawn tight and given one or two turns round a cleat fixed to the handle. The animal is thus held at a distance until more definitely secured. It works quite well on small and large animals and no cases of suffocation have ever been experienced.



This instrument, which was first made to order, is now turned out by the Holborn Surgical Instrument Company at quite a reasonable figure and will, I am sure, save much time and annoyance when dealing with "tricky customers."

Yours faithfully,

John T. Turney.

Lynton,
Dominion Road,
Worthing.
October 14th, 1932.

Diseases of Animals Acts, 1894 to 1927

SUMMARY OF RETURNS

Period.	Anthrax.		Foot-and-Mouth Disease.		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks confirmed.	Animals attacked	Out-breaks confirmed.	Animals slaughtered as diseased or exposed to infection.	Out-breaks reported by the Local Authorities.	Animals attacked	Out-breaks confirmed.	Out-breaks confirmed.	Swine slaughtered.
Period 1st to 15th October, 1932	No. 5	No. 5	No. 2	No. 143	No. 4	No. 4	No. 4	No. 35	No. 13
Corresponding period in 1931	12	13	1	166	3	3	10	74	33
1930	7	9	—	—	2	3	16	81	45
1929	17	19	1	70	6	9	18	167	102
Total 1st January to 15th October, 1932	268	331	12	1,083	107	167	174	1,330	642
Corresponding period in 1931	380	425	97	10,649	120	216	224	1,541	650
1930	289	320	7	299	179	272	310	1,931	844
1929	350	434	28	2,755	177	347	392	1,957	1,158